Partnering With the Public Sector: A toolkit for start-ups in the utilities sectors
GSMA

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. Representing MNOs and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today’s biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world’s largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

We invite you to find out more at gsma.com
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This initiative has been funded by UK Aid from the UK Government and is supported by the GSMA and its members.
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GSMA Digital Utilities

Utility services such as energy, water, sanitation, waste management and transport are essential to life. The Digital Utilities programme enables access to affordable, reliable, safe and sustainable urban utility services for low-income populations through digital solutions and innovative partnerships. In doing so, we also seek to support cities in low- and middle-income countries in their transition to a low carbon, climate-resilient future.

For more information, please visit www.gsma.com/mobilefordevelopment/digitalutilities/

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Contributors: Zach White (GSMA), Brian Njoroge (GSMA), Muhammad Arham Shoukat (GSMA)

UrbanEmerge is a sustainable and inclusive development consultancy, with a focus on emerging markets. As a core group of partners with an extensive network of affiliated consultants, UrbanEmerge advises public and private sector clients in areas related to low-carbon, inclusive and resilient economic growth, sustainable cities, circular economy and responsible investment. These areas are supported by our cross-cutting expertise in enabling technologies, including smart city and digital solutions.

For more information, please visit the UrbanEmerge website at www.urbanemerge.com
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Cities in low-and middle-income countries are home to one billion people lacking access to affordable, reliable, safe, and sustainable utility services. This urban service gap is being exacerbated by rapid urbanisation, climate change and widening inequalities posing complex challenges to city authorities, municipalities, and utility service providers.

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-ups with the public sector’s scale, service mandate, and resources.

Over the last decade, through the GSMA Innovation Fund, we have supported more than 100 start-ups and SMEs working across LMICs. The GSMA Digital Utilities programme, and thanks to the support of the UK’s Department for International Development (DfID), focused on mobile network operators (MNOs) and other technology providers. By working together, these partners can leverage the power of digital technology to create innovative service models to improve urban utility service delivery.

The GSMA Mobile for Development’s position at the intersection of the mobile industry, tech innovation, government, and development ensures that we have the knowledge, expertise, and networks to support more than 100 start-ups and SMEs working across LMICs. In that time, we have observed how central partnerships are to start-ups’ scaling journey and how partnership value to a prospective partner; — How to identify synergies and articulate partnership value to a prospective partner; — Understanding common processes, risks and activities in forming a partnership; and — Tips for identifying additional opportunities for funding and support.

By 2050, the world’s urban population is expected to increase by two billion, with 90 per cent of this growth concentrated in Africa and Asia. Demand for urban utility services will continue to expand in line with this rapid urbanisation, and pose unique challenges to cities and urban utility service providers.

There is growing evidence that innovative digital solutions can support public sector-led solutions to unlock business models with the capacity to extend service provision to low-income urban populations. These solutions often require strong partnerships between the public and private sector, as well as mobile network operators (MNOs) and other technology providers. By working together, these partners can leverage the power of digital technology to create innovative service models to improve urban utility service delivery.

The GSMA Digital Utilities programme supports urban utility service providers in low- and middle-income countries (LMICs) by enabling access to essential utility services through digital solutions and innovative partnerships. Over the last decade, through the GSMA Innovation Fund we have supported more than 100 start-ups and SMEs working across Africa, South and South-East Asia. In that time, we have observed how partnership opportunities for funding and support.

We focus on start-ups leveraging digital innovations to improve urban utility service delivery.
Section 1

The role of digital solutions and innovative partnerships in closing urban service gaps

1.1 The urban service divide

Bridging the urban service divide not only benefits under-served individual city residents but entire cities by enabling structural transformation and making cities catalysts for social mobility and economic opportunity.

Currently, more than 1.2 billion urban dwellers are under-served, representing one-third of urban residents globally.1 Figure 1. Up to 70 per cent of the under-population in LMICs are reportedly under-served by municipal infrastructure and rely on informal or alternative arrangements for key services. These services are often inferior or unsafe, and more expensive than municipal services:

- **Water:** A World Resources Institute study of 71 LMIC cities found that private water providers can charge as much as 52 times more than municipally supplied water.2 Estimates suggest that the urban water tanker fleet in Karachi, Pakistan might have doubled over the past decade, while it has more than quadrupled in India.3 Pakistan might have doubled over the past decade, while it has more than quadrupled in India.4 Beyond being more expensive, water supplied by private water vendors also results in significant opportunity costs – particularly for women who are often asked to collect water for their families. A 2016 UNICEF study found that for 29 per cent of the population in sub-Saharan Africa, improved drinking water sources are 30 minutes or more away. An average rounding to collect water is 33 minutes in rural areas and 25 minutes in urban areas.5

- **Energy:** New research by Wood Mackenzie highlights that Nigeria’s diesel-genset power generation capacity exceeds that of the grid by 10.5 GW.6 Diesel genset power generation capacity exceeds that of the grid by 10.5 GW.7

- **Sanitation:** In Bangladesh, only 36 per cent of the poorest quintile in the urban income distribution have access to at least basic sanitation services, compared to 83 per cent of the richest quintile.8

In Madagascar, only 2 per cent of the poorest have access to at least basic sanitation services while 43 per cent of the richest have access.9

- **Waste management:** The total amount of waste generated is expected to triple in Africa and double in Asia by 2050.10 Without a dramatic change in waste management practices, this waste will mainly pile up in the environment, as 70 per cent of the waste in Africa and Asia is estimated to be mismanaged.11 Poor municipal solid waste management has a serious impact on public and environmental health. In Kinshasa, Democratic Republic of Congo, less than 10 per cent of the 8,000 tons of solid waste generated daily is collected, with the rest left in uncontrolled dumpsites and eventually in local rivers, the estuary, and the ocean. Uncollected household waste (especially plastics) also blocks storm water drains, exacerbating the city’s flooding and erosion problems.12

The urban service divide is often a direct product of unplanned or poorly planned patterns of urban expansion associated with little public investment and rapidly expanding informal settlements in city peripheries. As recent research by the NYU Marron Institute has shown, most rural-urban migrants settle in informal settlements located in the city periphery, resulting in outward expansion and urban sprawl.13 As highlighted in previous research, this trend poses unique challenges to municipalities and public utility service providers.14


6. Wood Mackenzie (2022), Quantifying the distributed diesel landscape in Africa


10. UNICEF (2016), UNICEF: Collecting water is often a colossal waste of time for women and girls


14. World Bank (2016), Stressful Migration Dynamics and Urban Resilience Project

The already substantial gaps in urban service provision are exacerbated by three key macro challenges facing several cities in LMICs:

1. **Urbanisation without structural transformation**

   Instead of benefiting from pathways to greater prosperity, many urban poor risk being locked into poverty traps, given that they often settle in areas deprived of public and private investment. Urbanisation without growth has important implications for a city’s built environment and its long-term ability to provide basic services to its population. Since the urban poor cannot afford to live in dense, well-connected neighbourhoods, many African cities are characterised by low-rise informal housing and urban sprawl.

   Cities in LMICs are increasingly vulnerable to the impacts of climate change, including rising sea levels and storm surges, heat stress, extreme precipitation, inland and coastal flooding, and landslides. According to the 2022 IPCC report, cities in the global south will be particularly exposed to risks such as coastal flooding “because their urban development is frequently characterised by low-rise informal housing and urban sprawl, which can increase their adaptive capacity to respond.”

2. **Climate change and the need for mitigation and adaptation in cities**

   Cities in LMICs are increasingly vulnerable to the impacts of climate change, including rising sea levels and storm surges, heat stress, extreme precipitation, inland and coastal flooding, and landslides. According to the 2022 IPCC report, cities in the global south will be particularly exposed to risks such as coastal flooding “because their urban development is frequently characterised by low-rise informal housing and urban sprawl, which can increase their adaptive capacity to respond.”

3. **Rapid urbanisation and population growth**

   By 2050, more than two-thirds of the world’s population is projected to live in urban areas. This rapid increase will take place mainly in LMICs. Africa and Asia—both still less urbanised than other regions—will have the fastest urban growth rates, accounting for 40 per cent of total global urban growth from now until 2050. The Intergovernmental Panel on Climate Change (IPCC) estimates that approximately 40 per cent of the world’s urban expansion may occur in informal settlements, further worsening the existing poor conditions of sanitation and socioeconomic disparities. This growth is also driving growing urban infrastructure investment needs. The Coalition for Urban Transitions estimates that urban infrastructure investment needs will range from $43–4.3 trillion per annum until 2030.

   These challenges are exacerbated by rich countries continuously failing on their commitments to provide adequate climate financing to LMICs, particularly when it comes to climate adaptation. Only five per cent of tracked climate finance goes to adaptation. "I see the growth of climate finance committed from international, regional and national climate funds went to locally focused projects in developing countries between 2003 and 2016. Adaptation accounts for just four to eight per cent of tracked climate finance, which totalled $579 billion in 2017-18. Given that adaptation challenges are particularly pronounced throughout cities in LMICs, it will be critical to overcome some of the structural barriers preventing more climate adaptation financing."

   Digital solutions are uniquely positioned to digital solutions and innovative partnerships in closing the urban service gap in LMICs.

   These solutions are set to play a vital role in meeting the UN Sustainable Development Goal 9: Access to Affordable, Reliable, Sustainable and Modern Energy. By 2050, more than two-thirds of the world’s population is projected to live in urban areas. This rapid increase will take place mainly in LMICs. Africa and Asia—both still less urbanised than other regions—will have the fastest urban growth rates, accounting for 40 per cent of total global urban growth from now until 2050. The Intergovernmental Panel on Climate Change (IPCC) estimates that approximately 40 per cent of the world’s urban expansion may occur in informal settlements, further worsening the existing poor conditions of sanitation and socioeconomic disparities. This growth is also driving growing urban infrastructure investment needs. The Coalition for Urban Transitions estimates that urban infrastructure investment needs will range from $43–4.3 trillion per annum until 2030. 12

   For city authorities and state-owned utilities providing basic public services, urban sprawl poses unique challenges. The capital expenditure required to provide basic infrastructure, such as water pipes or sewer networks, is deeply sensitive to the density at which urbanisation occurs. The result is often highly disproportionate distribution of basic services between richer neighborhoods and poorer informal settlements, with preference given to the socio-economic core.
How digital solutions can help address essential urban service gaps

Service gaps

Mobile solutions

Unaffordable

Pay-as-you-go models can make services affordable for low-income consumers by enabling micropayments. For service providers, mobile money can reduce operating costs and improve revenue collection.

Unconnected

GIS can generate granular data to assess needs and coordinate service delivery in complex value chains.

Unreliable and unaccountable

Smart monitoring and smart metering can improve operational efficiency. Internet of Things (IoT) can improve management of service delivery and consumption.

Unplanned

Data and large data sets can inform plans for the provision of urban services. Big data can support evidence-based policymaking.

Unsafe

IoT sensors can be used to monitor service quality and prevent faults. Digital solutions and platforms can drive accountability in the informal sector, making service provision safer for workers and customers.

How digital solutions support improved services:

Energy

Pay-as-you-go (PAYG) services enable low-income customers to make micropayments and guarantee revenue collection for providers;

Smart monitoring and smart metering can minimise electricity theft, line losses and improve utility performance; and

Digital tools and new business models play a key role in the decarbonisation of unsustainable power supply chains. Digital tools will encourage generator replacement by reducing the cost of renewable energy solutions for businesses.

Example from the GSMA Innovation Fund for Digital Urban Services cohort:

Koolboks

Nigeria

PAYG solar-powered refrigerator for commercial use by MSME traders

Water

PAYG services enable low-income customers to make micropayments and guarantee revenue collection for providers;

Smart monitoring of system performance can minimise technical losses and improve operational efficiency;

Mobile services enable communication and complaint resolution between providers and customers; and

Smart metering can make operations and billing more efficient, and make utilities more commercially sustainable and transparent for funders and investors.

Example from the GSMA Innovation Fund for Digital Urban Services cohort:

Koolboks

Nigeria

PAYG solar-powered refrigerator for commercial use by MSME traders

Diyalo

Nepal

Developing IoT-based digital solutions for water utilities
How digital solutions support improved services:

Example from the GSMA Innovation Fund for Digital Urban Services cohort:

**BhumiJo**
- **Bangladesh**
- Provision of affordable sanitation through public toilets in Dhaka

**Regenize**
- **South Africa**
- Household waste collection and recycling, organised and tracked through mobile

**Useful links**

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**Plastic and waste management**

How digital solutions support improved services:

**Example from the GSMA Innovation Fund for Digital Urban Services cohort:**

**Regenize**
- **South Africa**
- Household waste collection and recycling, organised and tracked through mobile

**Important points**

- Digital traceability tools will be vital for innovators to create an sustainable trail of recovered waste, which can be used to create new products and services.
- Money order solutions can provide a more convenient, cost-effective, and transparent way for organisations to transfer credit to users.
- Mobile money solutions are well-suited to the urban poor and can help close the urban service divide.

**Tools**

- **Digital tracing:** tracking plastic and waste management through digital tools.
- **Waste traceability systems:** allowing for the tracking of waste across the supply chain.
- **Transfer credits:** allowing users to transfer credits to each other.

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Figure 3
Government haves and start-ups needs framework

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<tr>
<td><strong>Service base</strong></td>
<td><strong>Authority</strong></td>
<td><strong>Resources</strong></td>
<td><strong>Infrastructure</strong></td>
<td><strong>Network</strong></td>
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<td>Larger user base</td>
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<td>User engagement and service delivery</td>
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<td>Customer lifecycle journey</td>
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<td>Impact on user experience</td>
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<td><strong>Influence and compulsory mandate</strong></td>
<td><strong>Permeability and affordance</strong></td>
<td><strong>Availability and access</strong></td>
<td><strong>Technology, grid, service infrastructure and capability</strong></td>
<td><strong>Distribution and coverage - densities for expansion</strong></td>
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<td>Permissions and abolishment of existing systems</td>
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<td>Resource efficiency</td>
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<td><strong>Considerations for start-ups to identify achievable synergies</strong></td>
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<td>Immediate customers</td>
<td>Expansion volume</td>
<td>Localised requirements</td>
<td>Reality vs potential</td>
<td>Strategic targeting</td>
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<tr>
<td>Need-to-haves vs Nice-to-haves</td>
<td>Long-term vision</td>
<td>Capacity constraints</td>
<td>Interoperability</td>
<td>Phases of growth</td>
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<td>Power of validation and adoption</td>
<td>Localised requirements</td>
<td>Existing idle resources</td>
<td>Data sharing capacity, opportunities, limitations</td>
<td>Operations and process efficiencies</td>
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<td>Cost-benefit analysis</td>
<td>Reality vs potential</td>
<td>Leveraging each partner’s strengths unlock value</td>
<td>Reality vs potential</td>
<td>Optimising for scale</td>
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<td><strong>Customers</strong></td>
<td><strong>Resources</strong></td>
<td><strong>Integration</strong></td>
<td><strong>Distribution</strong></td>
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<td>Acquisition, monetisation, insights</td>
<td>Credibility, certification</td>
<td>What is the purpose and how will we leverage this?</td>
<td>Funding, personnel, talent, etc.</td>
<td>Funding, personnel, and talent, etc.</td>
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<td>Employment buy-in</td>
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<td>Digital solutions</td>
<td>Innovation</td>
<td>Commercialisation</td>
<td>Lean approach</td>
<td>Impact</td>
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<td>Solving for market needs</td>
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<td><strong>Start-ups needs</strong></td>
<td><strong>Governments needs</strong></td>
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<td>Market adaptation</td>
<td>Culture shift</td>
<td>Income</td>
<td>Resource efficiency</td>
<td>Public good</td>
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<td>Evolving consumer demands</td>
<td>Upskilling, evolving mindset</td>
<td>Financial sustainability</td>
<td>Doing more within constraints</td>
<td>Deeper and expand benefits</td>
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<td>Source: The Hungry Lab – Adapted and contextualised to digital utility sector per interviews and research</td>
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It is important to note that this process is not one-sided. The start-up and the government partner should work together to identify and prioritise the haves and needs of each stakeholder. It is important to note that this process is not one-sided. The start-up and the government partner should work together to identify and prioritise the haves and needs of each stakeholder as they align on partnership purpose and objectives (see Section 3.2). By doing so, both parties can ensure that they are deriving mutual and satisfactory benefits from the partnership. Correspondingly, Figure 4 highlights start-up haves and government needs.

Start-ups have a unique mix of agile thinking, entrepreneurial spirit, and technical expertise that allows them to quickly respond to evolving needs within the community. Furthermore, public-private partnerships can give public sector projects access to new funding streams, innovative business models, connections with new stakeholders, and unique expertise from the private sector. Ultimately, it allows them to go beyond the traditional and regulatory procurement space and their traditional supplier base, and take advantage of innovation and technology trends shaping the wider sector.

Table 1: Examples of different start-up-public partnership types among global use cases

<table>
<thead>
<tr>
<th>Role of public partner</th>
<th>Sector/country</th>
<th>Start-up</th>
<th>Sector</th>
<th>Public sector body</th>
<th>Government as approval authority and subsidy partner</th>
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<tr>
<td>Government as pilot collaborator for proof-of-concept</td>
<td>Transport-Electric Vehicle (EV)</td>
<td>Kazam</td>
<td>India</td>
<td>Delhi DCCCh, BSES Rajdhani and BSES Yojana</td>
<td>Founded in 2020 by Indian entrepreneur, Kazam is an IoT-based charging software platform, founded to reduce emissions by 75 per cent of government’s fleet. Kazam is currently India’s largest EV charging station network.</td>
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<td>Government as subsidy partner</td>
<td>Waste Management - Circular Economy</td>
<td>ERTI</td>
<td>Malaysia</td>
<td>Jabatan Alam Sekitar Malaysia (Department of Environment)</td>
<td>Founded in 2018, ERTI aspires to recycle 100 per cent of the e-waste collected by its heroes with a government-subsidised collection service.</td>
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<tr>
<td>Government as defence partner</td>
<td>Energy - Marketplace</td>
<td>RecycleX</td>
<td>Philippines</td>
<td>QBO Innovation Hub</td>
<td>Founded in 2017, RecycleX is an enterprise recycling solution that specialises in collecting e-waste at its collection centres from households and businesses, and manages greenhouse gas emissions, while offering companies formally selected as a vendor partner by the Delhi Government to manage 50,000 units of electric vehicles with top fleet operators in India. The Delhi Government will procure a fleet of electric vehicles and provide e-vehicle charging infrastructure to enable fleet operators to sign up with the e-vehicle charging solution and to install electric vehicle charging stations to bring down the cost of a charging station.</td>
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Despite these obvious synergies, it is also critical that businesses acknowledge and learn from past failures and disappointments, and acknowledge that some PPPs have meant that the public sector took on excessive risks, and costs, while in other cases, private sector partners have had significant financial and reputational risks.

1.4 Different roles public sector stakeholders can play in partnerships with start-ups

The public sector can play different roles as a partner to start-ups, depending on the specific needs and capacities of the start-up at that time (Table 1).

The start-up and the government partner should work together to identify and prioritize the haves and needs of each stakeholder as they align on partnership purpose and objectives. Correspondingly, Figure 4 highlights start-up haves and government needs.

Start-ups have a unique mix of agile thinking, entrepreneurial spirit, and technical expertise that allows them to quickly respond to evolving needs within the community. Furthermore, public-private partnerships can give public sector projects access to new funding streams, innovative business models, connections with new stakeholders, and unique expertise from the private sector. Ultimately, it allows them to go beyond the traditional and regulatory procurement space and their traditional supplier base, and take advantage of innovation and technology trends shaping the wider sector.

In addition to filling critical service gaps, start-ups can equip governments with the data they need to address urbanisation challenges with data-driven decisions as well as providing start-ups with ways to generate additional revenue streams, innovative business models, connections with new stakeholders, and unique expertise from the private sector. Ultimately, it allows them to go beyond the traditional and regulatory procurement space and their traditional supplier base, and take advantage of innovation and technology trends shaping the wider sector.

Public sector body

Delhi DCCCh, BSES Rajdhani and BSES Yojana

Joint Delhi government and private-sector-owned electricity distribution companies.

Role of public partner

Government as approval authority and subsidy partner

Kazam was one of several companies officially selected as a vendor partner by the Delhi Government to manage 50,000 units of electric vehicles with top fleet operators in India. The Delhi Government will procure a fleet of electric vehicles and provide e-vehicle charging infrastructure to enable fleet operators to sign up with the e-vehicle charging solution and to install electric vehicle charging stations to bring down the cost of a charging station.

Energy - Marketplace

ERTH as a “top authorised collection centre”

ERTH also recycles 100 per cent of the e-waste collected by its heroes with a government-licensed recycling facility.

Government as implementation and service delivery partner

The Government of Malaysia is a sustainability leader and a member of the Energy Regulators’ Compact of the United Nations Environment Programme. The Government of Malaysia as implementation and service delivery partner as it leverages technology to create an ethical, transparent and traceable supply of upcycled materials. Kazam is a new breed start-up that specialises in collecting e-waste at its collection centres from households and businesses, and manages greenhouse gas emissions, while offering companies officially selected as a vendor partner by the Delhi Government to manage 50,000 units of electric vehicles with top fleet operators in India. The Delhi Government will procure a fleet of electric vehicles and provide e-vehicle charging infrastructure to enable fleet operators to sign up with the e-vehicle charging solution and to install electric vehicle charging stations to bring down the cost of a charging station.

Government as incubator

Exora received incubation support from QBO, and its customers must be approved by the Energy Regulators’ Compact. Exora received incubation support from QBO, and its customers must be approved by the Energy Regulators’ Compact. Exora has also launched its digital platform for proof-of-concept. Exora received incubation support from QBO, and its customers must be approved by the Energy Regulators’ Compact. Exora also hosts many industry speaking events, and collaborates with the government.

Government as partner

Kazam  is an IoT-based charging software platform, founded to reduce emissions by 75 per cent of government’s fleet. Kazam is currently India’s largest EV charging station network.

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Partnering with the public sector: A toolkit for start-ups in the utilities sectors

1.5 Key trends shaping the future role of digital solutions and innovative partnerships in urban service delivery

There are many trends that are gaining momentum at various levels across different geographies and sectors in LMICs. The following key emerging trends and megatrends relevant to the GSMA’s Digital Utilities Innovation Fund (DUIF) are:

1. Government support for start-ups and innovation ecosystems is on the rise across LMICs with pioneering cities taking the lead.

2. Circular economy approaches are being actively supported across the public and private sectors given global sustainability needs.

3. Advances in digital innovation across a range of emerging technologies such as AI, data analytics, and blockchain are creating new pathways for digital solutions and innovative partnerships.

4. New funding models with the capacity to support multi-stakeholder partnerships and public-private collaboration are emerging.

### Trend 1: Government support for start-ups and innovation ecosystems is on the rise across LMICs with pioneering cities taking the lead.

Governments across LMICs are increasingly interested in digitising and start-up innovation to capitalise on the surge in market demand. This can be seen by the number of public-sector-driven start-up initiatives, such as Make It Happen in the Philippines and Build-Take Turbo, that are building the enabling ecosystem to further support start-ups.

Such government initiatives are also contributing to increasing funding as they help to drive the provision of alternative geographic coverage, and potential for scale to enhance the impact of these new informal settlements. In recent years, there has been a growing recognition that governments can and should invest in urban innovation ecosystems to drive economic development. The GSMA supported an ASU program in 2020 to catalyse the growth of the start-up ecosystem in urban areas.

Partnership opportunities are listed in Box 1.

### Trend 2: Circular economy approaches are being actively supported across the public and private sectors given global sustainability needs.

Circular economy approaches are gaining traction as a way to address global sustainability challenges, with governments, businesses, and communities working together to reduce waste, promote resource efficiency, and create economic opportunities. Some examples of circular economy initiatives include:

- **Urban Waste Management:** In the state of Kerala, the circular economy approach is being adopted to manage urban waste, including the use of innovative technologies, such as the Bandicoot robotic scavenger, to replace humans in cleaning manholes and eliminating manual scavenging. Bandicoot is an emerging start-up in South Africa using algorithms powered by AI to automate waste collection. The company’s scalable technology is expected to be adopted in urban areas to_address societal needs associated with sustainability, climate adaptation, and economic efficiencies.

- **Smart City Initiatives:** Smart cities are becoming a focal point for circular economy approaches, with governments, businesses, and communities working together to promote joint innovation objectives, and raise the profile of circular economy approaches. In Indonesia, for example, the Jakarta Smart City initiative is leveraging circular economy principles to address urban waste management, including the use of AI-powered streetlights to reduce the amount of plastic waste in urban areas.

As outlined in the initiative, Jakarta Future City (2020) is a partnership between Jakarta City and the Jakarta Smart City Initiative (JSCI) with the goal of transforming Jakarta into a sustainable and resilient city. The initiative aims to address the city’s challenges, such as air pollution and waste management, through the implementation of innovative solutions, including the use of AI-powered streetlights to reduce plastic waste in urban areas.

- **Crowdfunding and Incubation Programs:** Many governments, businesses, and communities are supporting crowdfunding and incubation programs for start-ups and innovators. These programs provide technical assistance and financial support to move business ideas from concepts to market-ready solutions. For example, the NEP (New Era Project) is an innovative programme to kick-start off-grid electrification through grant funding, create an enablement ecosystem to further support start-ups, and attract global investors. Through the GDS, various pilot smart city initiatives have been launched in Johannesburg, including public Wi-Fi, airhealth, elearning, and smart meters.

### Trend 3: Multi-stakeholder partnerships are emerging to support multi-stakeholder and public-private collaboration.

Successful multi-stakeholder partnerships require a mix of public, private, and non-profit sector actors to work together to achieve common goals. Examples of such partnerships include:

- **Urban Waste Management:** The Indonesian Waste Management Project (IWP) is a partnership between the World Bank, P, and the Rural Electrification Agency with support of the World Bank. The project aims to provide technical assistance to Jakarta in implementing smart city solutions, including start-ups and incubation activities for high-growth tech start-ups, and the development of grid-connected mini-grids or distributed energy systems. The project has helped to create an enabling environment for start-ups in urban areas.

- **Smart City Initiatives:** Smart city initiatives are becoming a focal point for multi-stakeholder partnerships, with governments, businesses, and communities working together to promote joint innovation objectives, and raise the profile of circular economy approaches. For example, Jakarta Future City (2020) is a partnership between Jakarta City and the Jakarta Smart City Initiative with the goal of transforming Jakarta into a sustainable and resilient city. The initiative aims to address the city’s challenges, such as air pollution and waste management, through the implementation of innovative solutions, including AI-powered streetlights to reduce plastic waste in urban areas.

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Across LMICs, the nationwide push in recent years to advance the development of their start-up ecosystems and attract global investors is fostering fertile ground for start-up-public sector partnerships. These opportunities not only help start-ups access critical funding and tap into commercial markets and funders, but also benefit the public sector through the establishment of all the diverse and valuable but often-silenced stakeholder, such as start-ups. These opportunities include the establishment of a national smart city strategy and Swachh Bharat mission to support the implementation of the initiative and set the stage for the selected cities in the programme. Many cities are exploring and investing in start-up ecosystems through the creation of start-up hubs for pilots and scaling digital solutions, including AI-powered streetlights. Other cities are establishing start-up ecosystems to support multi-stakeholder partnerships, and other public and private sector partners are expected to develop mini-grids or deploy SHSs for urban electrification. For example, the NEP (New Era Project) is an innovative programme to kick-start off-grid electrification through grant funding, create an enablement ecosystem to further support start-ups, and attract global investors.

As outlined by Qlue’s citizen app.

### Box 1: Government support for start-ups and partnership opportunities

**Governments** are actively supporting start-ups and innovation ecosystems to drive economic development. The GSMA has helped to catalyse the growth of the start-up ecosystem in urban areas. Some examples of government initiatives include:

- **Make It Happen in the Philippines:** The program is supporting urban innovation ecosystems by catalysing the growth of the start-up ecosystem in the Philippines, with a focus on building the enabling ecosystem to further support start-ups.

- **Build-Take Turbo in Turkey:** The initiative is building the enabling ecosystem to further support start-ups.

### Box 2: The public sector’s role in catalysing Qlue’s scaling journey in Indonesia

Indonesian-based civic-tech start-up Qlue’s app and government dashboard provides two-way communication between residents and governments. Residents can report problems and request services, while governments can monitor and respond to these issues. This approach has helped to democratise visual data. Qlue collaborates with the Jakarta Smart City initiative, which is an multi-sectoral monthly district office performance indicator. Several teams are working on various responsive initiatives to address citizen concerns as highlighted in Qlue’s citizen app.

Qlue was launched as a pilot project with the Jakarta Smart City initiative in collaboration with the Indonesian Ministry of Digital Transformation. The pilot project was launched in 2021, with a focus on improving public services and modernising government operations. The pilot was designed to address the needs of Jakarta’s residents, particularly those living in informal settlements, by providing them with a secure, transparent, and user-friendly information dashboard. The platform allows residents to report issues and request services, while the government can monitor and respond to these issues. The pilot project aimed to catalyse Qlue’s scaling journey in Indonesia, with the goal of creating a sustainable and resilient city. The pilot project was successful in demonstrating the benefits of multi-stakeholder partnerships for the delivery of urban services.

As outlined by Qlue’s citizen app.

### Box 3: The GDS’ role in catalysing Qlue’s scaling journey in Indonesia

The Global Digital Service (GDS) works with governments around the world to help them deliver public services in a more efficient and effective way. The GDS’s role is to work with governments to help them identify opportunities to use digital technologies to improve public services. The GDS’s work with Qlue involves providing technical assistance to the start-up in order to help them scale their business model. For example, the GDS has helped Qlue to develop an app that allows residents to report issues and request services, while the government can monitor and respond to these issues.

As outlined by Qlue’s citizen app.

### Box 4: The impact of Qlue’s scaling journey in Indonesia

Qlue’s scaling journey in Indonesia has helped to catalyse the growth of the start-up ecosystem in urban areas. The company’s scalable technology is expected to be adopted in urban areas to address societal needs associated with sustainability, climate adaptation, and economic efficiencies. Start-ups and innovators are expected to take a portion of this growing market.

The amount of waste produced globally is increasing rapidly, especially in Africa and Asia, creating a growing market. The Indonesian government has prioritised the Jakarta Smart City initiative in order to transform Jakarta into a sustainable and resilient city. The initiative aims to address the city’s challenges, such as air pollution and waste management, through the implementation of innovative solutions, including AI-powered streetlights to reduce plastic waste in urban areas.

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As outlined by Qlue’s citizen app.
Partnering with the public sector: A toolkit for start-ups in the utilities sector

The market potential for emerging technologies to advance deployment of digital platforms and the general perception is that utility service providers across the world are yet to reach their full potential.

Digital platform models: For many digitalisation has been synonymous with Internet of Things (IoT) technologies and digital innovations that will continue to shape and expand the role of utility service providers.

Trend 3: Advances in digital innovation across a range of emerging technologies such as IoT, AI, and big data are creating new pathways for digital solutions and innovative public-private partnerships.

The market potential for emerging technologies to advance deployment of digital platforms and the general perception is that utility service providers across the world are yet to reach their full potential.

The latest release of the International Data Corporation’s Worldwide Internet of Things Spending Guide indicates a gradual growth of the IoT market in the Asia-Pacific region from 2021 to 2025 is expected to reach $437 billion by 2025, with a compound annual growth rate of 12.1 per cent. This growth is mainly driven by increased adoption of IoT for use cases such as location tracking, remote working, and facial recognition, as well as the deployment of 5G in the region. The decline in the cost of sensors is also a significant development, making IoT use cases such as water leakage detection or monitoring and controlling power quality more relevant to public utilities. According to data from Goldman Sachs and BI Intelligence, the average cost of sensors has dropped from $150 in 2014 to $5.16 in 2019.9,10

AI and big data: Passively generated data held by the private sector (mobile big data, or data generated by digital platforms), as well as evidences in publicly available geospatial data sets (remote sensing data), hold great potential to spur development in general, and urban planning specifically. Data-sharing platforms are still relatively nascent in LMICs, and there therefore is limited evidence on the effectiveness of relevant and more evidence-based, and brand-undermined use cases. The opportunities associated with innovative data sources in supporting national and municipal authorities to make urban planning and urban service provision more inclusive and more evidence-based remain underexploited. The COVID-19 pandemic has fuelled government engagement with MNOS to use big data to monitor and predict the spread of the pandemic and evaluate the effectiveness of different mitigation measures. The pandemic is also expected to be a catalyst for data-sharing platforms, since many public sector and civil society stakeholders have witnessed the tremendous insights that can be derived from partnerships with the private sector.11

Network effects: Value increase with the number of users;

• Trust: Rating, verification and review of systems, or other successful start-ups;

• Removal of barriers of entry: Platform disrupts closed-shop markets;

• Market creation: Platform creates the possibility of users;

• Efficiency: Platform can facilitate more efficient exchanges between parties;

• Value generated

The act of many buyers and sellers using the platform means prices are fixed, and where value can be generated. Some of the enablers of this trend in LMICs are increased access to mobile financial services, and therefore there is limited evidence on the applicability for essential utility services. The key driver in the rise in account ownership. For instance, according to the Global Findex report, 76 per cent of adults globally had an account in a bank or regulated institution such as a credit union, microfinance institution, or a mobile money service provider. In Africa and Asia, the number of adults aged 15–29 years who have an account in 2011 to 66 per cent in 2021. In LMICs, the share of adults using digital services such as mobile financial services increased from 35 per cent in 2014 to 57 per cent in 2021, with 63 per cent of adults in LMICs using a digital payment. COVID-19 has been a key catalyst of digital payment adoption and innovations.

Challenges remain, with...

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Challenges remain, with...
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A range of donors, funders, and investors recognizes that shared value creation and sustainability require multi-stakeholder collaboration and partnerships. This is true, in particular, for public sector sectors—infrastructure and service delivery capacity in low- and middle-income country cities, and provide vital funding to innovative service providers.

Some of the funders playing a particularly prominent role in this space include:

- **Partnering for Growth and the Global Goals 2030 (P4G):** P4G is a global platform accelerating pioneering green partnerships to drive inclusive and resilient economic growth. It supports early stage investments for sustainability projects with a clear financial model and strong business case.

- **Trend 4:** Private and public sector partnerships to drive inclusive and resilient economic growth. This is also set in the context of the need to rapidly expand existing infrastructure and service delivery capacity in low- and middle-income country cities, and provide vital funding to innovative service providers.

- **Transform:** TRANSFORM is a unique joint initiative between the United Nations, the United Kingdom, Government of Canada (IFCD) and EY. Establishing multi-stakeholder partnerships to drive impact is a top priority for these models. In addition, TRANSFORM uses its capabilities and expertise in marketing, distribution, digital, and business relationships to achieve scale.

- **Translate:** The initiative has supported 61 projects in 13 countries so far.

- **Imagise H2O (H2O):** Imagise H2O is a global water innovation accelerator that provides entrepreneurs with access to resources, insight and visibility to launch and scale solutions. Entrepreneurs benefit from access to mentorship, engagement with potential customers and investor connections, and marketing and sales support. Since 2009, Imagise H2O has supported 50 water innovation companies with customers and receives more than $1 million in every $10 of early stage investments it makes in sub-Saharan Africa and South Asia. The initiative has supported 61 projects in 13 countries so far.

- **Aqua for All:** Projects supported provide entrepreneurs with access to resources, insight and visibility to launch and scale solutions. Entrepreneurs benefit from access to mentorship, engagement with potential customers and investor connections, and marketing and sales support.

- **ADB Ventures:** ADB Ventures support start-ups with solutions for emerging Asia. It provides financing and support through a range of equity investments, debt instruments, and grants.

- **Results-based financing (RbF):** The trend is funding projects in a results-based manner. Projects supported provide entrepreneurs with access to resources, insight and visibility to launch and scale solutions. Entrepreneurs benefit from access to mentorship, engagement with potential customers and investor connections, and marketing and sales support.

- **End-user subsidies where delivery utilities mobile data or services:**

- **Asset financing models based on revenue share, where mobile based:**

- **The use of new data sources in managing credit risk, including in credit scoring or repayment management:**

- **Climate financing instruments, such as carbon credits or distributed renewable energy certificates (D-Recs):** These models are likely to gain prominence as IoT assets are increasingly deployed and digital payments adopted more widely. This is also set in the context of the need to rapidly expand existing infrastructure and service delivery capacity in low- and middle-income country cities, and provide vital funding to innovative service providers.

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- **Other relevant impact reporting. Its climatic programme focuses specifically on the opportunities and barriers facing climate-tech entrepreneurs in the region.**

- **Untapped Global:** Untapped Global’s innovative smart asset financing models focus on revenue-generating assets that provide access to risk investments and deliver key information and insights. To date, Untapped Global has invested more than 5.000 entrepreneurs across a dozen water, solar and other use cases, such as clean water, solar, e-mobility, and inclusive finance.

- **Finance Agence de Développement Digital Energy Challenge:** The Agence Française de Développement Digital Energy Challenge is a platform for innovative solutions to power access, the enablement of digital solutions to innovative finance is, however, not limited to P4G models, and in recent years we have seen the emergence of new forms of innovative finance that utilise

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Section 2
Key definitions for conceptualising start-up-public sector partnerships

2.1 Defining public-private partnerships

2.1.1 Elements that define PPPs

The term public-private partnership describes a range of possible relationships between public and private entities in the context of infrastructure development and service provision. PPPs involving start-ups have features that distinguish them from other PPPs.

Traditionally, PPPs have focused on large-scale infrastructure such as roads, airports, ports, electricity infrastructure, railways and housing. These traditional PPPs tend to involve large corporates rather than start-ups or SMEs, and the aim of the partnership from the government side is usually to bring private capital into public infrastructure development projects.

While partnerships between start-ups/SMEs and the public sector can also be framed as PPPs, their unique characteristics, strategic objectives, and processes merit a distinction from these more traditional PPPs. Some of the most important features are:

- The level of private capital participation;
- The degree of transfer in management/operations;
- The focus of the partnership and the outcomes sought;
- The degree of risk sharing in the commercial/revenue model;
- The market and regulatory conditions surrounding the service being provided; and
- Duration of the partnership.

Beyond the features of a specific PPP, both sides of the partnership also need to consider the context and processes that surround the partnership. Figure 5 outlines some of these considerations.
Figures 6 and 7 provide an overview of how PPP models can vary based on the degree of private sector involvement and the degree of private sector risk taken. A full set of definitions for the models described in Figure 6 can be found in Table 1 in the Annex.
2.1.2 – Public sector contexts

As a potential private sector partner, it is critical to understand the degree of state involvement and state penetration in basic service delivery to identify relevant partnership opportunities. State involvement in service provision differs substantially across countries and sectors, though there are four broad ‘levels’ of state participation. Figure 8 highlights what these different forms of state involvement mean for service provision, and the role of private sector/decentralised service providers. Figure 8 also highlights what varying degrees of state penetration and state involvement mean for the delivery of urban sanitation services in LMICs. Many countries lack funding means that the state cannot meet demands directly, as private, and state providers close the gap. It also stresses that when informal providers dominate, they don’t meet public policy objectives, such as reaching those at the bottom of the urban income distribution by investing in innovative marketing campaigns or subsidy programs targeted at the poor.

Beyond the level of state participation in the market, it is also important to consider broader sector dynamics. In some of the utilities sectors, services can be dependent on large and highly centralised infrastructure networks. For example, large urban water networks or national electricity grids are textbook cases of natural monopolies. That is, where the extent of the need for large, integrated networks means that monopoly provision, with effective investment and oversight (high penetration), is the only provider. The state formally delegates and regulates service provision, and state-sanctioned service providers fulfil their mandates for parts of an entire city. Through regulated provision, the state can still help private service providers meet public policy objectives, such as reaching those at the bottom of the urban income distribution by investing in innovative marketing campaigns or subsidy programs targeted at the poor.46

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price controls, can in some circumstances be the most efficient way to deploy and run services. While this is the case for centralised water and energy services, this does not apply to all service models in those sectors or mean that within those sectors there is not scope for digital platforms. Off-grid services across all the utility sectors as well as along different parts in fragmented value-chains can be where platforms find their niche.

Figure 9 provides a very broad characterisation of how some utility services can be organised, based just on the dynamics of the number of buyers and sellers, and highlights the potential differences between services. This will look very different across markets and cities, depending on how services are organised and regulated.

2.1.3 – Business and revenue models

In terms of business models and income streams, it is also becoming more common to see revenue share arrangements between start-ups and public sector partners. Table 2 lists examples of different types of PPPs, from public-sector provision to full privatisation. While it is useful to consider these types of partnerships separately, they are not necessarily mutually exclusive. For example, Drinkwell’s partnership with Dhaka Water Supply and Sewerage Authority (WASA) not only enables Dhaka WASA to reach informal settlements it previously was unable to reach, data generated by Drinkwell also allows Dhaka WASA to make future investment decisions based on more accurate, real-time information.
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**Focus of the PPP**

**B2G – When start-ups/SMEs partner with a public sector institution**

**Water**

Wonderkid provides bespoke software solutions to water utilities and other service providers. Its B2G model is well established in the Kenyan market, and in recent years it has expanded into other African markets. Wonderkid offers a self-serve portal, utilities can sign up for the product to buy one or more tools, allowing smaller utilities to adopt them incrementally. To make the technology accessible for smaller utilities, the software is offered on a small monthly fee rather than a large upfront fee. The solution developed and successfully implemented by Jazz, CISNR and PESCO makes a strong case for other public utilities to leverage CISNR’s cost-effective, locally manufactured electric generators for when there is load-shedding. This creates a vicious cycle of load-shedding as those stealing get it for free. This leaves the remaining customers with high electricity bills to cover the losses.

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**Useful links**

GSMA (2020) Scaling Digital Identity in Sub-Saharan Africa: Lessons from CityTaps and Wonderkid  
GSMA (2020) Digitising billing and metering in other water utilities – Wonderkid  
GSMA (2020) Partnering to improve electricity consumption in Pakistan – Jazz, CISNR and PESCO  
GSMA (2020) Improving electricity consumption in the mining sector  

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**B2C – When start-ups/SMEs partner with a public sector institution to provide a service/product to a customer base that traditionally falls within the public sector institution’s service mandate**

**Sanitation**

Sanergy has been working to solve the sanitation challenge by designing, manufacturing and distributing low-cost, high-quality sanitation facilities called Fresh Life Toilet (FLT) in Nairobi, Kenya. This is a container-based solution (CBS) where waste is collected hygienically in safe containers and then transported for treatment and recycling.

---

**Useful links**

Sanergy (2021) Driving sustainability in cities through integrated water and sanitation solutions  
GSMA (2019) Sanergy: Using mobile to unlock circular economy models for sanitation in Nairobi  
Deere (2019) WASH business: A mixed business model in waste, biogas

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**World Bank (2021)**

Tapping into water innovation: A new partnership to catalyze access to water and sanitation technologies in the Asia-Pacific

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**LMIC example**

Wonderkid has now scaled to working with over 40 water utilities across Africa.

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**Partnering with the public sector: A toolkit for start-ups in the utilities sectors**

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### Public utility

<table>
<thead>
<tr>
<th>Public utility</th>
<th>Municipalitarcy/local government/city council</th>
<th>Regulatory body</th>
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</table>
| A public utility company delivers basic services to the general public, including electricity, water, and sanitation, typically wholly or majority publicly owned, offering services typically available to everyone on a given country/regional/city level.

<table>
<thead>
<tr>
<th>Definition of relevance</th>
<th>Example</th>
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<tbody>
<tr>
<td>Giving rise to start-ups operating in the water, energy, and sanitation sectors.</td>
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<table>
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<th>Table 2: Relevant public sector partners for start-ups</th>
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<tr>
<td><strong>Public sector entity</strong></td>
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<td>--------------------------</td>
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<tr>
<td><strong>Definition of relevance</strong></td>
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<td><strong>Example</strong></td>
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Section 3
Best practices for partnerships

Intro to best practices
The following section explores best practices in considerations and recommendations for a start-up when planning for and pursuing a start-up-public sector partnership in the digital utilities space. It is divided into the following three topics:

ASSESS
Readying
Fundamental considerations for a start-up to reflect upon as its own standalone entity when evaluating readiness for a partnership with a potential public sector partner.

ALIGN
Planning
Common, interconnected building blocks to consider when planning for a start-up-public sector partnership. These considerations should ideally be mutually discussed for alignment between parties.

ACT
Embarking
Recommended activities, insights and lessons learned from other start-ups to apply when moving from planning to action in pursuing a partnership, including examples of choosing the right angle to approach a public sector partner as well as how to obtain funding and additional resources for support.
3.1 Start-up self-assessment

Readying a start-up for a partnership starts with self-reflection

Before approaching a public sector partner, a start-up should first perform a self-evaluation with respect to its own needs and motives. There are four common types of self-evaluation considerations:

1. Needs and motives;
2. Internal team capacities;
3. Financial capacity; and
4. Ecosystem positioning.

Example questions for start-ups aiming to assess their needs and motives:

1. Would our digital solution fulfill a public need and purpose?
2. Will a public sector partner bring the authority, credibility, resources and/or gravitas that we need to operate, grow and/or attract other substantial clients?
3. Will a public sector partner bring a large, captive customer base that is essential for our product solution can be deployed, or is this only a pilot project happening in your immediate environment?
4. Is there a direct product-market fit with the public sector partnership?

Useful links

- Haves and needs framework:
- Contextual awareness:
- Self-awareness:

Effective partnering appears to depend on:

- Self-awareness: Knowing what you are good at, your patterns of behaviour and tendencies, and areas for further growth.
- Contextual awareness: Knowing what is happening in your immediate environment - both professionally and socially - in your organisation, that of your partners and beyond, and understanding the complex interplay between yourself and your context.
- Haves and needs framework: Create a haves and needs framework that illustrates key synergies between your start-up and your public sector partner.

Quick tips

Relationships and incentives: A start-up’s business model predicated on public sector collaboration often involves in government relations/actions team that is exclusively focused on cultivating relationships with public sector stakeholders, understanding their priorities, building new partnerships, and sustaining existing partnerships with the public sector.

Assessing internal team capacity

While a start-up may decide that a public sector partnership is the appropriate way forward, it is critical that a start-up reflects on its own internal capacity and whether it aligns with pursuing, and maintaining a public sector partnership, which can be complex and time-consuming.

Example questions for start-ups aiming to assess their internal team capacity with reference to a public sector partnership:

1. Would a potential partnership have the necessary buy-in of the relevant management and team members, or is this an initiative pushed forward by one or two individuals but lacking the wider support to execute?
2. In pursuing a partnership, does the partnership’s management and operating team have the requisite technical and soft skills to interact with, lead and integrate with the public sector partner’s way of operating?
3. Is there sufficient time and bandwidth among the leadership and team members to invest in pursuing and implementing a partnership with a public sector partner without sacrificing quality of existing operations? What can we learn from corporates and their government relations teams?

Quick tips

Ecosystem Factory: How to Build Successful Corporate Partnerships as an Early Stage Tech Company
Devex: The Development Partnership Gap
Touchdown VC: Strategic Partnership Without Getting Crushed
Giz: Collaborative Innovation between Startups and the Public Sector

Useful links

- Assessing organizational capacity assessment tools:
- Hopes and needs framework:
- Self-reflection:

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- Self-reflection:
Assessing your start-up’s financial capacity

Partnership with the public sector is a complex and challenging endeavor, especially when it comes to financial capacity. The public sector partnership:

1. **Assessing your start-up’s financial capacity**
2. **Assessing a start-up’s position across its market and ecosystem**
3. **Partners with the public sector: A toolkit for start-ups in the utilities sectors**

### Quick tips

**Do your research:** Different public sector collaboration opportunities entail different financial capacities along a start-up’s journey. Government tenders in many countries may require a start-up or private sector partner to meet a certain threshold of financial size. Other partnership opportunities focus on early-stage startups, and may be more feasible.

**Quick tips**

- **Strategic partnerships and public sector can be an entry point for government-related discussions. This includes connections to past accelerators or donor-funded grants.** Opportunities with strong relationships or partnerships that exist within or between parties and share risk.

### Useful links

**Axel Springer Consulting Group:**

- **MASCAL Challenge:** innovation ecosystem and how they are essential for start-ups.

**Founders Factory:**

- **CENEX:** innovation ecosystem in Sub-Saharan Africa.

**Social Entrepreneurship:**

- **Innovation Ecosystem:** creative local start-up ecosystem.

**LSU Research:**

- **Productivity:** innovation in Asian Key Industries and Players Shaping Asia’s innovation ecosystem.

**Product Tribe:**

- **Avalon:** innovation ecosystem and how they are essential for start-ups.

**GSMA:**

- **Exploring Sub-Saharan Africa Ecosystems:** innovation ecosystem and how they are essential for start-ups.

### Assessing a start-up’s financial capacity

**Example questions for start-ups aiming to assess financial capacity with reference to a public sector partner:**

1. **Are we solvent enough to meet our financial obligations without difficulties while investing resources into pursuing and maintaining a partnership?**
2. **What level of capital is each partner expected to invest?**
3. **How will we structure the revenue model with which a start-up can access financing such as debt?**
4. **Can we afford to pay our staff/leadership to spend time pursuing a partnership rather than on other income-generating activities? What about the opportunity costs?**
5. **Will the public sector partner be able to invest in financial resources and/or attract additional investors to our project?**
6. **Do we have other steady sources of revenue, such as from private clients, should this partnership not materialize, or are we wholly dependent on this partner to drive our future?**
7. **Do we know what financial resources we need to sustain ourselves until the partnership can begin generating income?**
8. **Can we self-fund or do we need outside funds to begin generating income?**
9. **Depending on the prospective partner and the type of partnership, do we meet the financial pre-conditions, if any, to approach the partner in this specific financial capacity?**
10. **Can we extract additional funding as a result of this partnership or would it put existing investments at jeopardy?**
11. **Does the public sector partner have a reputation of not paying on time?**

### Assessing a start-up’s position across its market and ecosystem

**Example questions for start-ups aiming to assess financial capacity with reference to a public sector partnership:**

1. **How is your start-up’s brand and reputation currently positioned among your key target markets, customers, segment and service channels?**
2. **Where do we stand in terms of market recognition, clout, and competitiveness compared to our peer group and immediate sector competitors, if any?**
3. **How can we enhance our positioning among our peers and leverage each other’s complementary strengths for mutual benefit?**
4. **How strong are our relationships and reputation across ecosystems and partner ecosystems? How can we leverage our suppliers and other key partners into a value chain to create stronger linkages and new relationships with potential public sector target partners?**
5. **How can we leverage our start-up ecosystem with other ecosystems, such as mentors and incubation resources, to enhance our positioning and relationships?**

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**Partnering with the public sector: A toolkit for start-ups in the utilities sectors**

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**Effect of energy on a society:**

- **Market Position:**
- **Partnership Options:**
- **Existing Partners:**
- **Ecosystem Positioning:**
- **Wider Impact Chain Links:**

**Partnering with the public sector: A toolkit for start-ups in the utilities sectors**

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**Partners:**

- **Peers & Competitor Engagement:**
- **Value Chain:**
- **Innovative Ecosystems:**
- **Support Network:**

**Social Entrepreneurship:**

- **Founders Factory:**
- **Creative Social Enterprise Business Model**
- **Industry and Players Shaping Asia’s innovation ecosystem.**

**Lux Research:**

- **Productivity:**
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- **MASCAL Challenge:**

**GSMA:**

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**Founders Factory:**

- **CENEX:**
- **Social Entrepreneurship:**
### 3.2 Planning and aligning for a partnership

#### Aligning the basic building blocks of an effective digital utilities start-up-public partnership

Once you have performed the requisite self-reflection assessment needed to determine that you are well-positioned to pursue a partnership with the public sector, it is important to map out partnership components, objectives, and key stakeholders involved in the partnership.

Before building and sustaining a partnership, it is critical to align on objectives and milestones. Figure 10 shows some of the key building blocks that both partnership stakeholders should align on before embarking in the partnership. The trajectory of these partnerships is not linear, and it requires patience, persistence, and constant attention to the interconnected building blocks and in-line with the needs, constraints, and goals of each party.

#### Quick tips

- In a recent McKinsey survey on managing complexity in business, alignment on partnership objectives was listed, along with trust and communication, as the most common core reason contributing to success and failure.

#### Useful links

- **Partnering with the public sector: A toolkit for start-ups in the utilities sectors**
- **Success Factors for Joint-Ventures**

#### Questions for start-ups aiming to align with their public sector partner:

1. What is the partnership’s purpose in terms of service and delivery of the solution? Is it a strategic, long-term decision or another more immediate reason for an ad hoc purpose?
2. Are both parties aligned in the vision, whether grand or small, of the partnership’s shared impact?
3. What are the drivers that motivate the public sector partner to work with a start-up in fulfillment of its purpose?
4. How do both parties’ goals align with each other? What are the specific metrics and objectives that must be accounted for each party?
5. What are the realistic constraints that may affect the partnership’s ability to realise its desired purpose?
6. Given the typical differences between government’s public service purpose and a start-up’s commercial interests, how can both parties align to create a shared purpose for the partnership?
7. To fulfil the partnership’s purpose, what other stakeholders do we need to consider, such as an NGO, corporate or development agency?

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**Source:** Adapted from various frameworks, BCG, Team Synthesis and Analysis.
Developing a proposal for the prospective public sector partner

When reflecting about how to approach and position a potential partnership, start-ups can benefit by researching and preparing a strong proposal or pitch that highlights the value it would bring to the public sector partner. Value to the public sector partner can be defined in many ways, such as increased financial revenue, operational savings, enhanced service delivery, greater impact by being able to reach low-income residents, key data points and other benefits.

Some best practices for successful proposal development:

1. Use your commercial experience to demonstrate technical and organisational capacity and financial responsibility.
2. Highlight your technical know-how so that your partner does not assume others can do what you are proposing to do.
3. Develop a clear value proposition by demonstrating two types of value:
   a. How do we leverage our synergies to better achieve our shared goals?
   b. The value to each partner: How well can we work together to achieve our individual goals? Focus on your partner’s goals in your pitch.
4. Demonstrate mutual benefit: Show that it is truly a win-win partnership, whereby the more one partner benefits, the more the other benefits. You can use a haves-and-needs framework to identify your value proposition.
5. Be clear about your big ask: What is it you want from your partner?
6. Be realistic and open to new ideas; your timeline expectations might not align with those of your partner, and there may be opportunities that you could have not been aware of before directly engaging with the potential partner.
7. Be transparent about the underlying financial agreements needed to sustain the partnership.
8. Clearly show who would be responsible for what and when over the course of the partnership. This will be your partner’s KPIs and will be essential for ensuring a sustainable partnership where each partner is clear on their areas of responsibility.
9. Demonstrate to your potential partner the value they could gain from your data (such as waste streams, traffic flow or electricity use) by understanding the bigger picture of your partner’s role in society.

Some useful links:

10 Steps to Perfect Your Startup Pitch

Useful tips:

1. Be prepared to negotiate the financial agreement for profit-sharing. Your partner will likely be willing to negotiate the terms of the agreement in a back-and-forth exchange.
2. Develop a conceptual monitoring and evaluation system, leveraging data from digital solutions. This will show your partner that you are committed to delivering on your promises.
3. Demonstrate your understanding of your potential partner before approaching them is critical. Do not underestimate how much critical thinking is required to understand your partner from their perspective and their incentive structure. In understanding compatibility and working dynamics, also consider how crucial or valuable your startup solution is to that prospective partner. How can you solve your partner’s problem? What will your partner want to see to trust you?

Useful links:

1. MEG: The Key to Involving the Private Sector in Public-Private Partnerships
2. Parikat: Eight Ways To Build Trust-Based Relationships With Potential Business Partners
3. UNDP: Improving the management of complex business partnerships
4. Practical Action: Developing partnerships that are secure, valuable partnerships

Quick tips

1. When planning a partnership, it is important to consider the compatibility of organisational cultures and communication style. These factors can significantly help or impede effective collaboration.
2. Understanding partner dynamics to improve communication and build trust:
   a. 1. Is this prospective public sector partner responsive and open to the digital innovation that the start-up will bring, or will the start-up face resistance among public sector staff?
   b. Are the communication styles of both partners compatible enough in terms of pace, frequency, and mode to facilitate close collaboration?
   c. Are the partners aligned and satisfied with the contribution and investment of each party to the partnership, both in terms of project/solution delivery as well as relationship management?
3. Example questions for start-ups aiming to assess and improve communication mechanisms and build trust:
   a. When assessing the relationship with potential business partners, what terms of project/solution delivery as well as relationship management?
   b. Understanding partner dynamics to improve communication and build trust:
   c. Are the roles and responsibilities of each party mutually aligned with the partnership’s objectives and allow each partner to demonstrate their individual strengths?
4. Do we have a framework for regular communication and evaluation of partnership milestones, as well as raising potential challenges?

Partnering with the public sector: A toolkit for start-ups in the utilities sector
3.3 Taking a public sector partnership beyond the pilot stage

How to overcome barriers to scale

It is important to consider key factors for scaling when designing your partnership with a public sector organisation. These partnerships often fail to scale beyond the pilot stage, so it is important to prepare to confront these challenges in advance. For example, start-ups may need to raise additional funding, hire new staff, or build new partnerships to scale their operations. Additionally, start-ups may need to overcome regulatory hurdles or develop new technologies to support a larger customer base. By considering these factors early on, start-ups can develop a roadmap for success as they scale their partnerships in the digital utilities sector.

Start-ups need to identify strategies for moving beyond the pilot stage and overcoming scaling challenges. Some key questions to ask when it comes to a scaling a partnership with a public sector partner include:

1. Will the implementation of the partnership require ongoing support from the start-up? Can the partnership be easily scaled up or down, depending on the needs of the public entity? By carefully evaluating the sustainability and scalability of the business model, start-ups can ensure that their partnership will be able to weather any unforeseen challenges.
2. What are our goals for scaling the partnership?
3. What start-up resources and capabilities are required for scaling?
4. What funders should we approach?
5. What funding instruments does the scaling of the partnership require?
6. How will risk-sharing between the partnership stakeholders evolve as the partnership scales?
7. What scalability challenges do we anticipate and how can we overcome them?
8. How will we measure success?

Some useful links for start-ups include:

- **GSMA**: Scaling Digital Solutions in the Water Sector – Lessons from CityTaps and Wonderkid
- **GSMA**: Innovative Data for Urban Planning: The Opportunities and Challenges of Public-Private Data Partnerships

**Quick tips**

CityTaps (smart water meters) and Wonderkid (GovTech for water utilities) are two GSMA grantees who have successfully navigated scaling journeys. Their key scaling factors included:

- Market attractiveness
- Seed funding
- Flexibility of business model
- Commercial sustainability

**Useful links**

- **GSMA**: Scaling Digital Solutions in the Water Sector – Lessons from CityTaps and Wonderkid
- **GSMA**: Innovative Data for Urban Planning: The Opportunities and Challenges of Public-Private Data Partnerships

**Critical factors in CityTaps’ and Wonderkid’s journeys to scale**

- **Market attractiveness**: The size of the addressable market in a country and potential product/demand fit; ease of doing business in a market and degree of digital readiness.
- **Enabling policy**: The degree to which water sector policies incentivise the adoption of digital tools through monitoring sector performance, emphasising commercial viability and enabling public-private collaboration.
- **Ecosystem and entry points**: The extent to which the ecosystem in a market facilitates market entry.
- **Ideation**: The availability of seed funding in the sector and the attractiveness of the solution to potential funders.
- **Partnerships**: The extent of the synergies between MNOs and innovators, and the degree to which these can be realised through partnerships; degree to which utilities are willing to take risks in innovating.
- **Validation**: Widespread adoption of technologies, and the extent to which innovators can build a customer base and utility providers trust their products.
- **Change management**: How well-managed transitions to digital are executed, including how staff are retrained and redeployed when technologies create redundancies.
- **Quality of service**: The degree to which a solution delivers demonstrable value to customers, and the customer retention rate.
- **Scaling capital**: The availability of funding in the sector; larger and longer-term investment in innovations; degree to which utilities provide confidence in digital transitions.

**Use of technology acclimatised**: The use of technology that is well-adapted and the gradual transition of alternatives.

**Commercial sustainability**: The business model has reached commercial sustainability and does not rely on external funding.
Implementing, scaling and sustaining a partnership

When embarking on the activities towards implementing a start-up-public sector partnership business model, it is important to consider how the partnership will be sustained and how it can be scaled. Sustainability is essential to ensure that the start-up-public sector partnership can continue to deliver value to both partners over the long term.

When implementation of a start-up-public sector partnership comes to complete and it is time to scale the partnership, there are important considerations for the business model to ensure long-term sustainability. Key issues include:

- How to price the product or service delivered by the start-up: too high a price may limit uptake and prevent the partnership from achieving its goals, while too low a price may not cover costs and make the partnership unsustainable in the long run.
- Managing intellectual property:
- How to decide when faced with challenges/sudden changes during the partnership journey; and
- A business model pivot required to make the partnership more sustainable – which other partners could have a vested interest to invest in the partnership after it has delivered value.

Partnership Business Model Canvas Tool

The Partnership Business Model Canvas contains key partnership factors for success that a start-up should consider (see Figure 15). In each box, there are questions of one should consider in discussion with the public sector partner to strengthen the partnership.

**1. Proposed partnership model**
- What are the products and/or services that will be delivered by the start-up?
- How does this model provide unique value?

**2. Start-up user segmentation**
- Who are the target customers and service model(s) that are contributing these segments?
- How will this be monetised and/or sustained with a government partner?

**3. Government value proposition**
- How does this model provide unique value?
- How will the government partner contribute unique value?

**4. Key activities**
- What are the key activities/services that will be included in this partnership?
- What is the detailed action plan and required role for each participant to move towards achieving the business model success?

**5. Key resources & metrics**
- What are the requisite marketing, business development and sales channels for this partnership?
- What are the requisite technology and infrastructure needs for this model?
- What are the potential watchouts and gaps we must anticipate?

**6. Channels**
- What are the key technology and infrastructure needs for this model?
- What technical capabilities does each partner have in-house?

**7. Revenue streams & cost structure**
- What are the key costs incurred by each partner that needs to be considered in the partnership model/product/services pricing and contribution?
- What revenue streams and income sources will help sustain this partnership beyond pilot stage to grow and scale?

**Key considerations for partnership stakeholders at different partnership stages**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Key Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning &amp; Design</td>
<td>Government should look for: Start-ups should look for:</td>
</tr>
<tr>
<td>Selection, Partner</td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
</tr>
</tbody>
</table>

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**Government should look for:**
- Operational excellence
- Capacity to deliver a commercial pilot-stage outcome
- Additional new and relevant skills and capabilities needed
- Ability to contribute additional resources needed
- Ability to adapt or re-engineer processes
- Frequent feedback

**Start-ups should look for:**
- Requisite level of digital maturity
- Low cost of entry
- Ability to pivot at any time
- Ability to adapt or re-engineer processes
- Frequent feedback

---

**Existing examples of proposed model:**
- Are there any current working partnership case studies and models that we can learn from?
- What are the requisite marketing, business development and sales channels for this partnership?
- What are the key technology and infrastructure needs for this model?

---

**Sustainability & Risk Management**

- What are the potential watchouts and gaps we must anticipate?
- What is the detailed risk assessment including and including the most critical risks for the model to succeed?

---

**Partnership Business Model Canvas**

Source: Contextualised from the Hungry Lab Start-up Partnership Framework; author’s Synthesis & Analysis from interviews; adapted from Osterwalder & Pigneur Business Model Canvas
Section 4
Tips, tools and additional resources

4.1 Tips: Engaging your wider ecosystem to engage the public sector

As a start-up, it can be difficult to navigate the complex world of government partnerships and regulations. Even before pursuing a partnership, it is recommended to begin establishing a network of contacts within your wider ecosystem, and within your target government entity. Doing so can be invaluable in increasing your start-up’s chances in securing the partnership(s) you need to succeed.

Quick tips

• Make yourself visible: In large, complex institutions with broad mandates, such as government, ideas can easily be lost without a champion — an individual with influence and commitment — to elevate them and move them through the system.

Useful links

CASE at Duke: Find and Cultivate the Right Government Champions
Growthmentor: The Ultimate Guide to Startup Advisors
AGS: The Ultimate Guide to Change Management Change Champions and Agents

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Useful links

Diverse advisors
Consider how you can build a strong circle of advisors on subjects specific to your partnership’s business, technical, policy, regulatory and other needs. Having a reputable advisory circle with strong networks can also elevate your standing and credibility for public sector partners.

Find a champion
Anyone with the relevant influence can become your champion, including your wider enabling ecosystem of investors, schools, mentors, and advisors. Champions are critical as they advocate on your behalf, using their influence to advance your goals. Champions can also be satisfied customers or other existing partners, such as corporates and other private sector partners.

Establish strong government contacts
Identify advisors with government experience who can help you:

— Understand the regulations that apply to your industry;
— Lend credibility and industry authority;
— Navigate the complex government bureaucracy;
— Locate and connect with potential partners in government;
— Understand the grant application process; and
— Secure funding through government grants or contracts.
4.2 Tips: Approaching your partner

When pursuing a public sector decision-maker to sign onto a partnership proposal may require significant effort—particularly in some challenging governance contexts. Therefore, a partner persona framework is an important tool for start-ups to use when trying to understand their potential partner. By creating a profile of their partner’s key decision-maker(s), a start-up can better understand how to tailor their messages and positioning to the target audience.

Some key elements include demographics (age, location, gender, etc.) and psychographics (values, interests, motivations). It is important to integrate their individual profile with the overarching needs and responsibilities of their position and the organisation’s goals for the department your decision-maker is overseeing.

**Figure 15**

Government Partner Mindset Map for Start-ups

<table>
<thead>
<tr>
<th>Communication</th>
<th>Government partner avatar</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the decision-maker’s (and gatekeeper’s) preferred communication style and channel?</td>
<td>Know the decision-maker’s and department’s key priorities and focus areas’ value-add to their priorities and focus areas’</td>
</tr>
<tr>
<td>What are you and the government decision-maker’s Administrative goals in each communication?</td>
<td>Know in the most immediate areas where your start-up can solve for decision-maker’s pain points</td>
</tr>
<tr>
<td>What is your start-up’s plan to maintain decision-maker’s and department’s communication and influence?</td>
<td>How can I demonstrate my start-up’s ability to help the decision-maker leaves?</td>
</tr>
<tr>
<td>How can you mobilise your key champion to facilitate communication and influence?</td>
<td>Know how you can align your start-up’s proposal to appeal to decision-maker’s key motivations and reward and reporting structure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Department goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know the areas of decision</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motivations</th>
</tr>
</thead>
<tbody>
<tr>
<td>How are the decision-maker and department measured, benchmarked and rewarded for their performance?</td>
</tr>
<tr>
<td>What is their risk profile?</td>
</tr>
<tr>
<td>Are they penalised for potential project failures?</td>
</tr>
<tr>
<td>How does the department prioritise or balance impact with cost-effectiveness?</td>
</tr>
<tr>
<td>What are their reporting obligations and to whom?</td>
</tr>
<tr>
<td>What is their risk profile?</td>
</tr>
<tr>
<td>Are they penalised for potential project failures?</td>
</tr>
<tr>
<td>How do they measure programme success?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the decision-maker’s and/or department’s key responsibilities that need to be fulfilled?</td>
</tr>
<tr>
<td>What are their reporting obligations and to whom?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities for your start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know the decision-maker’s role and impact on the government procurement database, where companies can demonstrate start-up’s ability to solve the problem or securing additional support</td>
</tr>
<tr>
<td>Do you research to understand different organisational procurement frameworks and requirements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pain Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the decision-maker’s or department’s key needs that need to be currently being not fulfilled?</td>
</tr>
<tr>
<td>What are their constraints?</td>
</tr>
<tr>
<td>Why has the pain point not been solved already?</td>
</tr>
<tr>
<td>What is the level of other pain in terms of magnitude and urgency to their solicitation?</td>
</tr>
<tr>
<td>Are they considering internal resources to solve the problem or pursuing external assistance?</td>
</tr>
<tr>
<td>Know the root immediate area where your start-up can demonstrate meaningful outcomes to decide on partnership’s agreement to your proposal and enhance your perceived value</td>
</tr>
</tbody>
</table>

4.3 Tips: Contracting and procurement

One of the key challenges that start-ups face when pursuing government contracts in the utilities sector is a lack of understanding of the government procurement process. This can lead to start-ups submitting bids that are not responsive to the RFP requirements or failing to adequately price their services. In addition, many start-ups lack the necessary experience and resources to navigate the complex web of government regulations and red tape. This can result in significant delays in contract negotiations or even rejection of bids.

**Best practices for database searches**

Here are a few tips to keep in mind when conducting database searches:

- Do not rely on one database or research source when identifying funding opportunities. The availability and quality of data can vary between local, regional, and national governments. For example, Crunchbase has a robust database of digital utilities start-ups, but it is very limited in the same type of information for Pakistan.
- Diversify your keyword search as different databases have different taxonomies, classifications and business interests and capabilities. E.g., Crunchbase does not have an official digital utilities category, but it does have other digital utilities-specific terms.
- Look at existing or previous fund portfolios. These often reflect relevant or similar start-ups or projects with public and private information that may help strengthen your application and pitch.
- Leverage partnerships and funding relations to learn more. Many start-ups in the digital industry have received support through government-backed accelerators, innovation funds, and challenges. These entities have a great network and free resources that can support start-ups in their partnership journey.

**Do your research to understand different organisational procurement frameworks and requirements**

Here is a link to the World Bank’s Primer on Procurement Frameworks and business opportunities:

- Partnering with the public sector: A toolkit for start-ups in the utilities sector
- Partnering with the public sector: A toolkit for start-ups in the utilities sector

**Partner with a reputable Vendor**

One approach, where appropriate and possible, is to partner with a reputable vendor who will be able to provide start-ups with valuable resources and support, including help with proposal development, contract negotiation, and compliance. By leveraging the expertise of a reputable partner, your start-up can focus on their core business and overcome the challenges associated with contracting and procurement in the public sector.

**Be prepared**

- Here is a clear and concise proposal, understand the agency’s requirements, and complete all required paperwork. By being organised and prepared, start-ups can demonstrate their commitment to the project and their commitment to meeting the needs of the agency. Having the appropriate legal advice and foundational materials ahead of time can be very important in expediting approvals, navigating contract complexity, and demonstrating professionalism.
Conclusion

Digital solutions have demonstrated their value for improving urban services in LMICs. However, more innovation is needed to develop business models that can be scaled on a wide scale and account for the financial constraints of utilities and municipalities, as well as the needs of low-income customers.

Urbanisation and climate change

Though the start-up-public sector partnership landscape for improved urban utility services is still nascent, trends such as rapid urbanisation, urbanisation without structural formation, and climate change will mean that utilities and public utilities will have to collaborate with start-ups to innovate and provide sector solutions to close the urban service divide. While there has been more attention placed on the opportunities related to start-up-public sector partnerships for urban utility services, it is clear that there are many barriers to such partnership models, particularly when it comes to catalyzing such partnership models at scale.

Pioneers and challenges

Examples in countries that have pioneered these partnerships such as Kenya, India, and Bangladesh highlight that start-up-public sector partnerships can support cities in making urban utility service delivery more affordable, reliable, safe, and sustainable. Despite some successes, it is important for start-ups to be aware of the challenges and complexities associated with public sector collaboration, and better assess where synergies with the public sector lie and how their service can support the public sector in meeting its objectives.

Innovation

Urbanisation and climate change

Pioneers and challenges

Collaboration

This toolkit sought to highlight the role of start-up-public sector collaboration in the context of many challenges facing cities in LMICs (Section 1), provide a conceptual framework of how to think through, frame, and define start-up-public sector partnerships (Section 2), offer practical tips and tools to start-ups navigating these complex partnerships (Section 3), and highlight additional resources that might be relevant to those aiming to catalyze start-up-public sector collaboration (Section 4). Given how nascent many partnerships and the wider start-up-public sector ecosystem are, it will be critical to continue to conduct research on the developmental, commercial, and social impact of these innovation partnerships, and use case studies to generate granular insights.
A closer look: learning from India’s support of start-up-public sector partnerships

India’s approach to start-up innovation and public-private collaboration in cities may offer important lessons for other ecosystems. India has established start-ups working across utilities sectors such as energy, water, and waste management, with strong links to local and international funding opportunities, and a public sector commitment to solve societal challenges through public-private collaboration. Figure 1 summarises some of the key drivers of start-ups and public sector partnerships in India.

- National Ease of Doing Business programme
Under the Ministry of Corporate Affairs, this programme is designed to break down key barriers to facilitate business development and transparency.

In the state of Kerala, the Kerala Start-up Mission (KSUM) has been created to support and advance entrepreneurship development and incubation activities for high-growth tech start-ups, including those in the utilities sector. Figur e2 highlights the approaches taken by the government to support start-ups and de-risk their activities.

- Make in India (Manufacturing)
- Swachh Bharat (Clean India)
- National initiatives, such as Seash Bharat (Clean India), Swachh Bharat Abhiyan, and Mission/Mandal which aims to drive innovation and entrepreneurship development, especially the prestigious IIT/ IIM system, produce many innovative start-up founders.

India has many national programmes and sector-specific initiatives to encourage public-private sector collaboration, especially in support of start-ups to accelerate tech innovation. The key flagship initiatives include:

- Start-up India (Digital) - the main portal for start-ups to register, obtain resources and explore opportunities
- Make in India (Manufacturing)
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### Table 1: PPP Contract Types

<table>
<thead>
<tr>
<th>Contract Type</th>
<th>Description</th>
<th>Payment Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lease or affermage</td>
<td>A lease or affermage contract is similar to a concession, but with the government typically receiving private finance.</td>
<td>Government pays—usually through a subsidy</td>
</tr>
<tr>
<td>Franchise</td>
<td>A franchise is sometimes used to describe an arrangement similar to a lease or affermage contract for existing assets, as described in Yeecombe (2002), page 15.</td>
<td>User pays</td>
</tr>
</tbody>
</table>