



# Urban expansion, an entrepreneur's playground

Serie No. 01



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## Rising in tandem

Urbanpreneurs use business solutions and creative problem-solving to address social and economic challenges that can help shape modern and successful cities.

This paper presents ways in which entrepreneurial activity develops synergistically with the growth of cities and helps address the social and environmental challenges associated with rapid urbanization through innovative business solutions. It does so by providing concrete examples of start-ups and small businesses that have developed organically within their urban environment. The purpose is to inspire more business-led solutions for resilient and sustainable cities of the future.

Today, around 56% of the global population resides in cities, growing to 68% - 7 out of 10 people, in 2050.<sup>1</sup> There will be an increase of 2.2 billion urban residents, living mostly in Africa and Asia.<sup>2</sup> With 10 cities the size of New York (a population of roughly 8,9 million people)<sup>3</sup> coming into being in the developing world every year, opportunities and challenges will follow in equal measure.<sup>4</sup>

Many cities around the world are struggling to meet the needs of the masses, such as increased demand for quality jobs, affordable housing, well-connected transport systems and other basic infrastructure services.

This makes cities a fertile ground for entrepreneurs who bring along innovation, job creation opportunities and delivery of products and services through new business models and technology platforms; all of which contributing to the future of a city.

Thanks to the availability of resources, access to infrastructure, talent, data, finance, information and market, cities attract entrepreneurs. Emerging trends in digitalization and the shaping of cities offer opportunities for entrepreneurs to engage in urban development and smart city economies. They act in a conducive and networked business ecosystem, in close collaboration with local governments, education institutions, civil society, fellow businesses and their clients.

As a result, entrepreneurs accelerate urbanization, which in turn provides a fertile ground for them, thereby creating a virtuous circle.<sup>5</sup>

To deliver quality services, modern cities rely on effective supply chains and information flows among all residents of the city ecosystem. Here, information and communication technologies (ICTs) and big data have become key elements to improve city operations as municipalities engage in the philosophy of smart city design.

Entrepreneurs are at the forefront of revolutionizing the flows and changes that we see in modern urban settlements. The need for city-level sustainable solutions is merging with the shift to the new global economic setting and societal divides deepened by the COVID-19 pandemic. The smart city economy is such an example. Linked to the urbanization and development of 22<sup>nd</sup> century cities, residents become connected and networked thanks to an increased use of technology.<sup>6</sup>

The emerging economic model is based on the principle of collaboration and an improved utilization of resources in which innovation and new technologies are key components. It promises to support the ability of cities to accommodate an increasing number of people

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<sup>1</sup> World Bank, Urban Development, 2020.

<sup>2</sup> UN Habitat, World Cities Report, 2022.

<sup>3</sup> New York City, New York population 2022. <https://worldpopulationreview.com/us-cities/new-york-city-ny-population>

<sup>4</sup> Naude W. Bangkok Post, 2016, <https://www.bangkokpost.com/opinion/opinion/1109265/entrepreneurship-is-shaping-the-worlds-megacities>

<sup>5</sup> Naude, W. Entrepreneurship is shaping the world's megacities, 2016.

<https://www.bangkokpost.com/opinion/opinion/1109265/entrepreneurship-is-shaping-the-worlds-megacities>

<sup>6</sup> Seubers, A. 22<sup>nd</sup> century citizens – changing cities around them, 2013. <https://atos.net/en/blog/22nd-century-citizens-changing-cities-around-them-2>

migrating to existing urban centers, as well as emerging rural cities. However, as urban populations grow, so do the challenges affecting the quality of life. And with more than one billion youth from the developing world expected to enter the labor market over the next ten years,<sup>7</sup> it is all the more important to invest in job creation initiatives.

Urbanization, if properly harnessed, has a transformative power to mitigate the rise of inequalities between countries,<sup>8</sup> led by the fourth industrial revolution and exacerbated by the pandemic. As most developing cities witness a deepening of social and economic divides and struggle to meet the demands of the population, the urbanization phenomenon has given rise to a new breed of innovator – *urbanpreneurs*,<sup>9</sup> who collaborate and tap into the available pool of urban resources to solve city-level challenges and improve the quality of life of residents.

The urban business sphere increasingly carries Corporate Social Responsibility to include environmentally conscious practices into its business operations in support of sustainable city development.<sup>10</sup> Where public systems are slow to provide, entrepreneurs, through their businesses and initiatives, are filling the gaps.

These key transformations are incentives for entrepreneurial endeavors and help attract talent while also driving continuous local-level growth.

Fostering entrepreneurship and innovation for urban development is important and can inspire more business-led innovations for resilient and sustainable cities of the future. It relates to Sustainable Development Goals 8 on decent work and economic growth, 9 on innovation and 11 on urbanization.

The United Nations formally recognizes entrepreneurship as a key ingredient in development through a series of General Assembly resolutions on entrepreneurship for sustainable development since 2012. The UN's body on trade and development (UNCTAD) provides continued support to micro, small and medium-sized enterprises (MSMEs) and start-ups,<sup>11</sup> in line with the 2030 Agenda for Sustainable Development.

## Urban entrepreneurship and city development

Entrepreneurs today have a tremendous opportunity to provide solutions to urban challenges. Businesses, in particular start-ups, are in a unique position to influence the development of sustainable and competitive cities to meet the needs of their citizens through technological innovation. The fast digital onboarding can be observed in developing countries, where now more than half of the population uses the Internet.<sup>12</sup> Increasing connectivity facilitates greater interaction and access to information which gives rise to networked ecosystems where entrepreneurs more easily innovate, scale-up and expand to new markets. In low-income countries, it is expected that new entrepreneurs will make an increased use of digital technologies in the future when selling their products or services.<sup>13</sup> These trends reveal that entrepreneurs across industries are getting prepared for a digital future, allowing businesses to leapfrog beyond the realms of the current status quo.

The idea of technology being the great equalizer is not new. Thanks to stronger Internet connectivity on a global scale, democratization of new technologies is making innovation tools readily available to more entrepreneurs. They can now tap into artificial intelligence (AI) and other new technologies (open source software, online learning programs, Internet of Things

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<sup>7</sup> Youth unemployment: The Facts, 2020. <https://gdc.unicef.org/resource/youth-unemployment-facts>

<sup>8</sup> Harness “transformative potential” for people and planet, 2020. <https://news.un.org/en/story/2020/10/1074632>

<sup>9</sup> Cohen, B. and Munoz, P. The Emergence of the Urban Entrepreneur, 2016.

<sup>10</sup> Murphy, D. and Ng’ombe, A. 2009. Corporate Social Responsibility. [Corporate Social Responsibility | SpringerLink](#)

<sup>11</sup> The Bridgetown Covenant, paragraph 127r, October 2021, United Nations Conference on Trade and Development. [https://unctad.org/system/files/official-document/td541add2\\_en.pdf](https://unctad.org/system/files/official-document/td541add2_en.pdf)

<sup>12</sup> SDG Pulse, Digitalization helps mitigate pandemic impacts, but digital and data-related divides affect ability to recover. <https://sdgpulse.unctad.org/ict-development/#9-c-1>

<sup>13</sup> Global Entrepreneurship Monitor 2021/2022.

(IoT) powered platforms) to scale-up, go digital with free e-commerce platforms and connect with fellow entrepreneurs at online meetups or even launch businesses with the help of virtual ideas marketplaces.<sup>14</sup> New concepts such as Fintech, crowdfunding and crowdlending enable potential entrepreneurs to test, develop and launch business ideas while making them less reliant on traditional funding mechanisms.

Another key ingredient of urban development is an effective knowledge circulation that relies on an agile smart city ecosystem where information is readily accessible and flows between municipalities, entrepreneurs, academic institutions, and citizens. Accelerated urbanism has placed the need for open information systems and data technology at its center, and entrepreneurs and businesses are seizing this moment to create new services and products in this area.

### Smart ecosystems as a bedrock for urban development

The building of robust and resilient cities needs the collaboration of and innovation from multiple stakeholders if they are to meet the demands of changing city landscapes.

A collaborative smart city ecosystem encompasses partnerships from a myriad of sources - conventional and non-conventional. Beyond local governments and established businesses, other stakeholders include universities, research facilities, entrepreneurs, start-ups and small and medium-sized businesses (SMEs) fully exploiting opinions, knowledge and experience of everyone in the community as can be seen through examples given in box 1.<sup>15</sup> Integrated technology-led solutions spearheaded by technology-driven enterprises pave the way for new-found paths of development, for example collaboration alliances with citizens and open data ventures with entrepreneurs.<sup>16</sup>

#### Box 1 – Multistakeholder-driven smart city ecosystems

A strong smart city ecosystem based on public-private initiatives can be found in Barcelona, Spain where, for example, the Starlab initiative was developed by the Council of Barcelona and businesses to reduce water usage and improve public areas for inhabitants.<sup>17</sup> A new irrigation management system for the city was put in place that is based on an open software platform and sensor technology and collects live data on the temperature, humidity, sunlight and wind velocity.<sup>18</sup>

New Songdo City in the Republic of Korea is listed among the smartest cities in the world. Its infrastructure<sup>19</sup> contains sensors that monitor temperature, energy use and traffic flows and help authorities to respond to problems.<sup>20</sup> This project was co-designed by the local government and IT companies to craft a new way of living through the use of smart technology solutions.<sup>21</sup> Nestled in the Incheon Free Economic Zone, the city plans to attract more international entrepreneurs and talent with financial incentives, sustainability credentials and investments in top-tier education centres.<sup>22</sup> Such entrepreneurship-led additions to modern cities lead to increased quality of life for residents, which in turn becomes a magnet attracting 'creative class' and highly educated individuals.

<sup>14</sup> The Urbanpreneur spiral: 3 converging forces driving entrepreneurship in cities, 2016.

<sup>15</sup> Smart cities and the promise of innovation in public services, 2019. <https://hub.beesmart.city/en/strategy/smart-government/smart-cities-and-the-promise-of-innovative-public-services>

<sup>16</sup> Ibid.

<sup>17</sup> Saving water with Smart irrigation system in Barcelona. <https://www.libelium.com/libeliumworld/success-stories/saving-water-with-smart-irrigation-system-in-barcelona/>

<sup>18</sup> Laursen, L. Barcelona's Smart city ecosystem, 2014. <https://www.technologyreview.com/2014/11/18/12190/barcelonas-smart-city-ecosystem/>

<sup>19</sup> Overstreet, K. Building a city from scratch: The Story of Songdo, Korea. <https://www.archdaily.com/962924/building-a-city-from-scratch-the-story-of-songdo-korea>

<sup>20</sup> S. Shresta. Big data application in smart cities. <https://www.cs.helsinki.fi/u/jilu/paper/SmartCity.pdf>

<sup>21</sup> Benedikt, O. The Valuable Citizens of Smart Cities: The Case Study of Songdo City.

[https://gjss.org/sites/default/files/issues/chapters/papers/GJSS%20Vol%2012-2%201%20Benedikt\\_0.pdf](https://gjss.org/sites/default/files/issues/chapters/papers/GJSS%20Vol%2012-2%201%20Benedikt_0.pdf)

<sup>22</sup> Lobo, R. Could Songdo be the world's smartest city? 2014. <https://www.worldfinance.com/inward-investment/could-songdo-be-the-worlds-smartest-city>



In the United Arab Emirates, Dubai is known as a hub for entrepreneurship and start-ups thanks to its digital infrastructure and that SMEs can avail the services of various government projects, public-private partnerships, incubators, accelerators and venture capitals.<sup>23</sup> It has a range of business-friendly policies and initiatives targeting at attracting entrepreneurs to set up shop. All of this resulting in 95% of the country's firms to be SMEs or start-ups, employing 42% of its workers and accounting for more than 40% of its gross domestic product.<sup>24</sup> As a growing business-friendly city ecosystem, it relies on collaboration between the public and private sphere, which encourages and promotes innovation across different sectors. Smart Dubai Platform is one such project, a so called "nerve centre" that unifies ongoing government initiatives toward digitalization. Created with Du Telecom company to unite the city's infrastructure with IoT, big data and cloud services, the goal is to make Dubai a liveable city and promote a smart lifestyle among the growing number of residents.<sup>25</sup>

As one of the fastest growing economies in the world, Vietnam is on track to become the 20<sup>th</sup> largest global economy by 2050.<sup>26</sup> Two main entrepreneurship hotspots are located in the capital of Hanoi and Ho Chi Minh City, both known for strong entrepreneurial spirit and focus on using technology to address local problems. The rapidly growing city of Hanoi is looking to transform itself into a smart city with an effective local e-government by 2025, enlisting help from IT companies to build large data centers to effectively roll out e-services and digitalize urban transport and infrastructure.<sup>27</sup> The property developer Sunshine Group pioneers smart living ecosystems by integrating smart technologies into its products to build intelligent infrastructure such as Smart Home App.<sup>28</sup>

### Entrepreneurs and the smart city model

A smart city, powered by innovation, data and IoT is built on the basis of improving quality of life, enhancing business competitiveness and ensuring environmental sustainability.<sup>29</sup> New technologies are poised to have a strong impact on sustainable urban development in the coming years, with the private sector leading digital innovation and leveraging emerging technologies to deliver more efficient and inclusive urban services.<sup>30</sup>

City infrastructures must meet the current needs of residents while also looking to the future to sustain a growing population. The approach requires to be two-fold as aging infrastructure requires to be maintained and new, modern solutions need to be built in tandem.<sup>31</sup> Infrastructure and resources like energy provision, electricity, waste management, health services and traffic management are integral to how urban cities cater to their citizens, and ultimately to their productivity. For instance, in São Paulo, Brazil, traffic jams alone were estimated to cost \$17.8 billion a year in lost productivity, wasted fuel and adverse health effects from vehicle emissions.<sup>32</sup> Advanced technologies brought by the fourth industrial

<sup>23</sup> Dubai: a city that incubates the entrepreneurship culture, 2022.

<https://economictimes.indiatimes.com/news/international/uae/dubai-the-city-that-incubates-a-culture-of-entrepreneurship/articleshow/89826131.cms?from=mdr>

<sup>24</sup> The UAE's entrepreneurial ecosystem and how to be a part of it, 2022. <https://seedgroup.com/2022/01/the-uaes-entrepreneurial-ecosystem-and-how-to-be-a-part-of-it/>

<sup>25</sup> International Telecommunication Union. Dubai Pulse – Smart Dubai Platform.

<https://www.itu.int/net4/wsis/archive/stocktaking/Project/Details?projectId=1514437355>

<sup>26</sup> Egusa, C. An entrepreneur's guide to Vietnam's startup scene, 2018. [An entrepreneur's guide to Vietnam's startup scene \(thenextweb.com\)](https://thenextweb.com)

<sup>27</sup> Sagar, M. Hanoi works with international smart cities and businesses to build e-government and smart city by 2025, 2019.

[Hanoi works with international smart cities and business to build e-government and smart city by 2025 – OpenGov Asia](https://open.gov.asia)

<sup>28</sup> Asia IoT Business Platform, The Race of Building Smart Cities in Vietnam, 2019. <https://iotbusiness-platform.com/insights/the-race-of-building-smart-cities-in-vietnam/>

<sup>29</sup> Ismail, N. Why do businesses and societies need smart cities? To survive..., 2018. <https://www.information-age.com/businesses-and-smart-cities-123473679/>

<sup>30</sup> OECD, Enhancing the contribution of digitalization to the smart cities of the future, 2019.

<https://www.oecd.org/cfe/regionaldevelopment/Smart-Cities-FINAL.pdf>

<sup>31</sup> Urban infrastructure: Keeping economies and people healthy. <https://theonebrief.com/urban-infrastructure-keeping-economies-and-people-healthy/>

<sup>32</sup> Urban infrastructure: Keeping economies and people healthy. <https://theonebrief.com/urban-infrastructure-keeping-economies-and-people-healthy/>

revolution enable cities to redesign their infrastructure and deliver public services in a smarter and more efficient way.

Digitalization can help this cause by providing a framework that not only delivers better services, but also monitors the changing needs with big data, allowing for fast adaption. They are fundamental to the smart city model with the ability to collect and report on trends, which is vital to a smart city's ongoing success.<sup>33</sup> Cities need to design a good and truly agile plan on how they will ensure that adequate resources are available for innovation, including estimates of smart city benefits versus costs, and agile contingency measures in the event of disruptive trends or ecosystem gaps.<sup>34</sup>

Embracing data technologies will help to deal with the social transformation of handling population growth and change, migration, healthcare challenges and resource depletion of which some initiatives taken are presented in box 2.<sup>35</sup>

### Box 2 - The impact of new data technologies in cities

With the support of private sector investment, Rwanda is developing a center of excellence as a pioneering Pan-African digital hub to drive economic growth through digital transformation. Kigali Innovation City (KIC) will be a networked ecosystem where transformative start-ups and other innovative companies, investors and academia interact and offer support services that build a community and facilitate new ideas.<sup>36</sup> Designing a hub of this nature incentivizes potential entrepreneurs to gather where resources and information sharing is abundant. These specific features in turn, make up the urban ecosystem.

The African Geospatial-Intelligence Agency (AGIA) leverages the power of geospatial technologies to improve urban planning, among others. The aerospace research and development company that is based in Togo uses satellite remote sensing, drones and data analytics<sup>37</sup> to address city-level challenges such as public health, natural resources management, as well as designing digital platform to collect climate and hydrological data to improve climate resilience.

Another important consideration for effective resource distribution and liveability is spatial planning. Cities with high population density and limited geographical space, such as Amsterdam and Copenhagen are based on the compact city model. Its principles include “compactness, density, diversity, mixed uses, sustainable modes of transportation and green spaces”.<sup>38</sup> All of these features should work together to form an integrated spatial planning approach to cities of the future, as can be seen through the example of Neom city in box 3.

### Box 3 – Smart city planning – a visit to the future

The Line at Neom project in Saudi Arabia, presents a radical revisit at urban planning, factoring in livability and environmental crises as the central problems it is finding solutions for. By using a planning system called 'Zero Gravity Urbanism' the city is designed with vertical layering allowing people to move in three dimensions, up, down and across.<sup>39</sup> It is envisaged that everything will run on renewable energy, and due to its vertical nature, the impact and footprint on the surrounding environment to be minimal. Livability within The Line is expected to be of the highest quality as all

<sup>33</sup> Wechsler, J. Why smart cities are a golden opportunity for entrepreneurs, 2018.

<https://www.entrepreneur.com/article/320199>

<sup>34</sup> <https://hub.beesmart.city/en/strategy/smart-government/smart-cities-and-the-promise-of-innovative-public-services>

<sup>35</sup> Ismail, N. Why do businesses and societies need smart cities? To survive..., 2018. <https://www.information-age.com/businesses-and-smart-cities-123473679/>

<sup>36</sup> Kigali Innovation City. <https://www.africa.engineering.cmu.edu/about/living-in-rwanda/kigali-innovation-city.html>

<sup>37</sup> VC4A, African Geospatial-Intelligence Agency (AGIA). <https://vc4a.com/ventures/african-geospatial-intelligence-agency-agia/>

<sup>38</sup> Sanches P et al, Green and Compact: A Spatial Planning Model for Knowledge-Based Urban Development in Peri-Urban Areas, 2021

<sup>39</sup> The Line: The city of the future in Neom, 2022. <https://www.tradelinkmedia.biz/publications/7/news/3946>

amenities will be within five minutes of travel. All transport will be provided by electric rail and pods. There will be no vehicles and thus no pollution. Water will be provided by a desalination process and green spaces take center stage within the city. Entrepreneurs and business leaders alike are already looking to Neom as an innovation hub, where it will be possible to tap into world-leading networks, technology and research to commercialize cutting-edge ideas.<sup>40</sup> It ultimately redefines the concept of urban development and what cities of the future could look like.<sup>41</sup>

The way cities are shaped in their expansion and development not only depends on a careful planning but also on their ability to nurture entrepreneurs. Entrepreneurs are the ones who can spot market opportunities and meet the needs of growing cities and populations as can be seen through the example of a start-up in Lagos in box 4. This promotes competitiveness, not only of businesses, but also of cities themselves.

#### Box 4 – Innovative start-up counters a city problem

Start-up Shuttlers, based in Lagos, Nigeria entered the bus-sharing and mass transit space. It aims to alleviate the traffic congestion problem by providing a forward-thinking tech-led alternative to public transport. Lagos has one of the highest number of commuters of all the megacities worldwide with a daily record of approximately 227 cars per kilometer. With Shuttlers, professionals can share rides in corporate busses to work, which reduces the number of vehicles in the heavily congested city. The company also uses big data analytics to observe customer behavior metrics and real time engagement on the app as well as for social media following, which helps to identify its target audience. It also uses big data for marketing analytics and optimal routing to effectively predetermine bus routes and reduce carbon footprint on the city environment by offering an easy ride-sharing alternative to public transport.<sup>42</sup>

### Driving community development

Community based entrepreneurship, also called social entrepreneurship, aims at addressing the needs of underserved, marginalized groups. As most of the rapid urbanization is concentrated in developing countries and markets, small scale entrepreneurship is viewed to have a complementary role to engineering growth<sup>43</sup> by providing jobs and other livelihood opportunities to local people and thus, feeds into the larger scale development of urbanization in this part of the world, as a Brazilian business showcases in box 5.

Community-oriented enterprises act as agents of change to improve the livelihoods of people, while simultaneously inspiring others to pursue business ideas. However, in developing countries a lot of emphasis is placed on creating relief and charity, rather than empowering institutions and systems and local people. Overlooking the strength of informal or rudimentary markets may be a serious economic oversight.

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