

# Digital Public Infrastructure : A Catalyst for Sustainable Development in Egypt



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In the digital age, developing Digital Public Infrastructure (DPI) has emerged as a cornerstone for achieving sustainable development. It is rapidly transforming societies worldwide, offering a powerful tool to achieve Sustainable Development Goals (SDGs). DPI refers to the foundational digital systems, platforms, and policies that enable governments, businesses, and citizens to interact, access services, and innovate. At the heart of DPI are elements such as digital identity systems, digital payment mechanisms, and data-sharing frameworks. These infrastructures provide a backbone for delivering public goods, improving governance, and driving inclusive economic growth.

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Globally, countries are leveraging Digital Public Infrastructure (DPI) to address critical challenges in sustainable development, particularly in achieving the United Nations' Sustainable Development Goals (SDGs). DPI encompasses a range of digital systems and platforms that facilitate efficient and transparent governance, economic growth, and social inclusion. India's Aadhaar system—a biometric-based digital identity platform—has revolutionized access to public services and financial inclusion. By providing a unique identification number to over a billion residents, Aadhaar has enabled 1.3 billion citizens with direct benefit transfers, reduced fraud, and streamlined access to subsidies and welfare programs. The program saved the country USD 27 billion in budget leakages. This system has been instrumental in ensuring that government benefits reach the most vulnerable populations, thereby reducing poverty and promoting inclusive economic growth.

The e-Estonia Platform has set global benchmarks for e-governance by offering seamless digital interactions between the government and its citizens. E-Estonia provides services such as e-residency, digital signatures, and online voting through a comprehensive digital ecosystem, significantly enhancing administrative efficiency and citizen engagement. Estonia's 99% online approach has transformed public service delivery and fostered a culture of innovation and transparency, positioning the country as a leader in digital governance. As of 2023, e-Estonia had attracted around 100,000 e-residents from 170 countries, becoming a benchmark in government service delivery.

Singapore's Smart Nation Initiative focuses on integrating advanced technologies to enhance urban living and sustainability. Through initiatives like smart urban mobility, digital healthcare, and intelligent infrastructure, Singapore aims to improve the quality of life for its residents while promoting sustainable development. The government's commitment to harnessing technology for the public good is evident in its extensive use of data analytics, IoT, and AI to optimize resource management and service delivery.

As most Arab countries increasingly embrace digital transformation, DPI holds great promise for addressing longstanding development challenges. With many countries in the region actively working to integrate digital solutions into their public infrastructure, DPI is seen as a critical driver for economic growth, social inclusion, and sustainable development. In the Gulf Cooperation Council (GCC) states, countries like the United Arab Emirates and Saudi Arabia invest heavily in DPI to enhance public service delivery and economic diversification. The UAE's Smart Dubai initiative and Saudi Arabia's Vision 2030 are prime examples of how DPI can be leveraged to create smart cities, improve government efficiency, and foster a knowledge-based economy. While Saudi Arabia aims to have its digital economy contribute USD 16 billion to its national economy by 2030, Dubai has set a target to achieve 100% digital governance by the end of this decade. These initiatives highlight the critical role of digital infrastructure in enabling sustainable



**Egypt looks to the future, where digital solutions become an integral part of its development strategy. By drawing on the successful experiences of leading nations such as Estonia and India, Egypt and other Arab countries can find models to emulate for enhancing their digital capabilities.**

development and economic resilience.

In North Africa, countries like Morocco and Tunisia are making strides in digital transformation by expanding internet access and digital literacy programmes. These efforts are crucial in bridging the digital divide and ensuring that all citizens can participate in the digital economy. Similarly, in the Levant region, Jordan and Lebanon focus on building robust digital ecosystems to support innovation and

entrepreneurship, which are essential for sustainable economic development.

Egypt, in particular, is positioned to lead the region in utilizing DPI for sustainable development. With a strategic vision to become a regional digital hub, Egypt has implemented numerous initiatives to enhance its digital infrastructure and capabilities. The Egyptian government's efforts include expanding high-speed internet access, promoting digital literacy, and fostering a vibrant tech ecosystem. These initiatives are aligned with the country's broader goals of economic diversification, social inclusion, and environmental sustainability.

Egypt has emerged as a leader in implementing DPI and has hosted the Global DPI Summit in Cairo. The summit brought together 700 representatives from over 100 countries, highlighting Egypt's role in fostering strategic partnerships and collaborations to accelerate DPI implementation. Under the leadership of the Ministry of Communications and Information Technology and in partnership with the UNDP, the Egyptian government has prioritized DPI as a critical component of its digital transformation strategy. This strategy aims to enhance public service delivery, promote economic growth, and ensure social inclusion.





Representatives from the United Nations Development Programme (UNDP) in a recent workshop with the Egyptian Anti-Corruption Academy to discuss strategies for advancing digital infrastructure.

### Key Highlights of the Summit

**Regional Collaboration:** The summit emphasized the importance of regional cooperation in building interoperable DPI systems across the Arab world.

**Showcasing Egypt's Leadership:** Egypt highlighted its progress in digital identity, payment systems, and e-governance as a model for other developing countries.

**Public-Private Partnerships:** Discussions focused on leveraging partnerships with technology firms to scale DPI solutions sustainably.

**Inclusion and Equity:** A key theme was ensuring that DPI initiatives are inclusive, particularly for women, youth, and rural communities.

### (DPI) is poised to transform sustainable development in Egypt.

By improving access to public services, DPI has enhanced the efficiency and effectiveness of government operations. For example, digital health platforms have improved healthcare delivery, while e-governance initiatives have streamlined administrative processes. In many countries, DPI has also played a crucial role in promoting financial inclusion, enabling more people to access banking services and participate in the digital economy. Additionally, DPI has supported environmental sustainability by providing tools for monitoring and managing natural resources.

DPI has the potential to contribute significantly to Egypt's sustainable development goals. By leveraging digital technologies, Egypt can:

**Improve Public Service Delivery:** DPI can streamline government processes, reduce corruption, and enhance the efficiency and effectiveness of public services.

**Promote Economic Growth:** DPI can foster innovation, entrepreneurship, and digital commerce,

which can lead to job creation and economic growth.

**Empower Citizens:** By providing access to information and digital services, DPI can empower citizens to participate in decision-making and hold governments accountable.

**Address Social Challenges:** DPI can be used to address social issues such as poverty, inequality, and healthcare disparities.

**Protect the Environment:** DPI can facilitate sustainable resource management, promote clean energy solutions, and reduce carbon emissions.

Egypt's DPI initiatives can directly contribute to progress on several SDGs:

**SDG 1:** No Poverty; Digital identity and payment systems enable direct cash transfers to vulnerable populations, ensuring that assistance reaches those who need it most.

**SDG 4:** Quality Education; The Ministry of Education's adoption of e-learning platforms has expanded access to education, especially in remote areas across Egypt.

**SDG 8:** Decent Work and Economic Growth; DPI fosters innovation and entrepreneurship in Egypt's digital economy. Startups in sectors like e-commerce, FinTech, and Health Tech are thriving due to improved infrastructure and regulatory support.

**SDG 16:** Peace, Justice, and Strong Institutions; E-government platforms promote transparency and reduce corruption, aligning with building strong and accountable institutions.

E-Governance is critical for the success of DPI. Effective governance ensures that DPI initiatives align with national priorities and are implemented transparently, accountably, and inclusively. It provides the necessary frameworks and policies that guide digital systems' development, deployment, and maintenance, ensuring they are secure, reliable, and equitable. Good e-governance also fosters



collaboration among various stakeholders, including government agencies, private sector partners, and civil society organizations, enabling a holistic approach to digital transformation. By establishing clear roles, responsibilities, and mechanisms for oversight and feedback, governance helps to mitigate risks, enhance public trust, and ensure that the benefits of DPI are widely shared, thus driving sustainable development and social progress.

While DPI offers significant benefits, it also presents challenges that must be addressed. One of the main challenges is the digital divide, which can exacerbate existing inequalities. To overcome this, Egypt has implemented initiatives to improve digital literacy and expand internet access, particularly in rural areas. Another challenge is ensuring the security and privacy of digital systems, which requires robust governance frameworks and regulatory measures. Despite these challenges, DPI presents numerous opportunities for innovation and growth, making it a key driver of sustainable development in Egypt.

Digital public infrastructure (DPI) is a transformative force in pursuing sustainable development. On a global scale, DPI is revolutionizing public service delivery, fostering economic growth, and promoting social inclusion. The Arab region, with its unique challenges and opportunities, should focus on harnessing DPI to bridge digital divides and enhance regional connectivity. As a regional leader, Egypt has demonstrated a solid commitment to DPI, as evidenced by its hosting of the Global DPI Summit in Cairo and its ambitious digital transformation strategy.

Egypt's efforts to integrate DPI into its national framework will yield significant benefits, improving public service efficiency, promoting financial inclusion, and supporting environmental sustainability. These advancements underscore the critical role of effective governance, collaboration, and innovation in leveraging DPI for sustainable development. By addressing challenges such as the digital divide and ensuring robust cybersecurity measures, Egypt can continue to build on its successes and drive its sustainable development agenda forward. As Egypt moves towards a future where digital solutions are

integral to its development strategy, the lessons learned, and best practices of countries like Estonia and India can serve as a model for Egypt and other Arab countries. The nexus between DPI and sustainable development is vital for achieving national priorities and contributing to the global effort to meet the Sustainable Development Goals (SDGs). Through continued investment in DPI and a commitment to inclusive and resilient digital transformation, Egypt can pave the way for a more prosperous, equitable, and sustainable future.

The United Nations Development Programme (UNDP) plays a pivotal role in supporting these efforts. As a key partner, the UNDP provides technical assistance and policy guidance to help Egypt build robust digital public infrastructure. The UNDP's expertise in Digital for Sustainable Development (D4SD) and global network of resources makes it an invaluable ally in driving Egypt's digital transformation agenda. By working closely with the Egyptian government and other stakeholders, the UNDP helps ensure that DPI initiatives align with national priorities and contribute to achieving the Sustainable Development Goals (SDGs).



**Egypt has emerged as a leader in implementing public digital infrastructure, solidifying its position by hosting the Global Digital Public Infrastructure Summit in Cairo. The summit brought together over 700 representatives from more than 100 countries, highlighting Egypt's pivotal role in fostering strategic partnerships and international cooperation to accelerate the implementation of digital public infrastructure, under the leadership of the Ministry of Communications and Information Technology.**