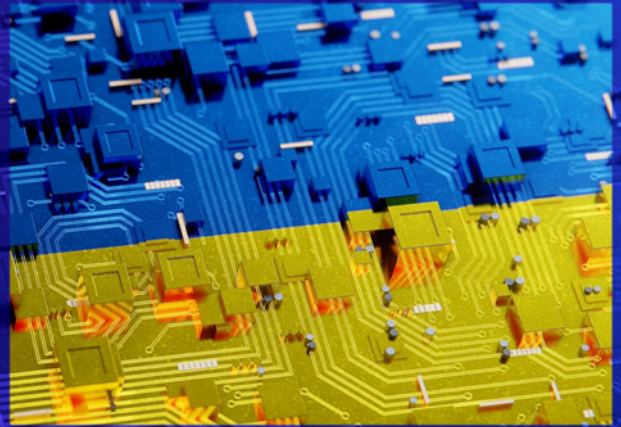


Digital Transformation in Ukraine:

How Digitization Progresses Despite
- and Accelerated by - the War



Executive Summary

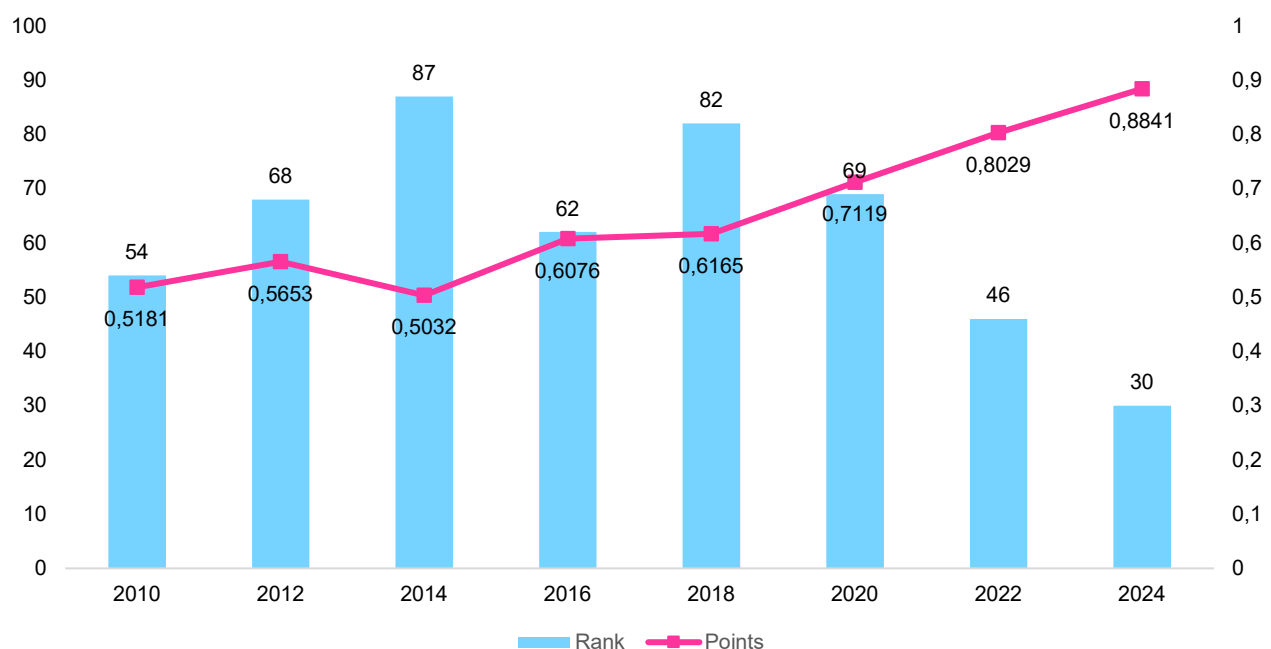
The digital transformation of Ukraine's public administration rests on three pillars: the Trembita platform, the Diia citizen portal, and the e-procurement solution Prozorro. Through these three pillars, Ukrainian authorities provide over 130 digital public services to citizens and businesses. Digitalization is thus no longer an empty buzzword, but a tangible, everyday reality. Its success demonstrates how technology can be leveraged for the public good and highlights the role of the ongoing war as a driver of digital transformation in the country: towards robust e-government solutions and user-friendly digital public services. This foundation now underpins a strong civil society and the reconstruction of Ukraine post-conflict.

Ukraine's experience shows that a high-performing e-government not only increases efficiency in democratic systems but also enhances resilience

during crises. Digital transformation continues even under crisis conditions: despite - or indeed because of - the Russian invasion. The country demonstrates the decisive role digitization can play during emergencies. State administration and governance have remained fully operational despite massive attacks. Hundreds of essential services - from residence registration to building permits - can now be completed online without leaving home.

This positive development is also reflected in the United Nations E-Government Development Index. In 2020, Ukraine ranked 69th with a score of 0.7119; by 2024, it had risen to 30th out of 193 countries, with a score of 0.8841.

E-Government Development Index (2010-2024)



Source: United Nations

In the context of Ukraine's digital transformation, Yulia, Digitalization Commissioner at the Ministry of Digital Transformation of Ukraine, commented: "Ukraine ranks second in Central and Eastern Europe in terms of IT professionals, with 307,000 specialists playing a key role in fostering innovation across Europe. We have developed products such as Diia, which have simplified countless bureaucratic processes, helped the government save resources, and reduced the risk of corruption. Investments in this sector can therefore be mutually beneficial, and the Ukrainian experience is valuable not only for the private sector but also for partner governments."

This digital capability, however, did not emerge overnight or solely due to the war. Ukraine had already modernized its digital infrastructure years prior, largely unnoticed. The current transformation is the result of strategic planning and long-term investment. This impressive outcome occasionally surprised international observers—for example, when Ukrainian officials, following initial refugee flows to Germany, opted to continue teaching Ukrainian children via the e-school.net.ua platform developed during the pandemic, rather than placing them in local welcome classes. In education, Ukraine thus surpasses Germany, where digital instruction is still largely isolated and often limited to video recordings.

Trembita: Facilitating Interagency Data Exchange

The foundation of Ukraine's cross-agency digital transformation is Trembita. This powerful platform for standardized data exchange among state authorities was launched in 2018 with EU support. Based on Estonia's X-Road system and adapted to Ukrainian requirements, Trembita now manages secure data exchange for hundreds of government entities, significantly improving administrative efficiency.

Diia: One App for All Life Events

The level of digitalization of public services in Ukraine contradicts the image of a helpless state shaken to its core by war. While digital governance progresses slowly in many countries, Ukraine has maintained since 2019 the comprehensive Diia platform, enabling public services to continue even when administrative offices were destroyed by missile strikes.

The Diia app, accessible on smartphones, offers a wide range of digital services: from business registration, opening bank accounts, and obtaining birth certificates to handling building permits and accessing health records. Key documents such as passports, driver's licenses, and educational certificates are available digitally. Social benefits can be claimed, taxes paid, and compensation for housing damage due to airstrikes requested. The platform also handles electronic sick leave and recently introduced digital marriage registration. These functions rely on electronic identification (eID), digital signatures, and access to the central Ukrainian population registry.

More than 20 million people now use Diia—over 70% of the adult population and roughly a third more than before the war. For many displaced and refugee individuals, the app serves as a digital anchor to their homeland.

Diia is also crucial for economic development. It enables the world's fastest business registration: entrepreneurs can register within 10–15 minutes, and a limited liability company (LLC) can be established in 30 minutes. This service has already supported 250,000 private entrepreneurs and over 2,500 companies. The platform also facilitates access to permits and licenses, with automated business registration as the next objective.

Prozorro: The E-Procurement Solution

The third pillar of Ukraine's digital success is the open-source Prozorro platform for public procurement and tenders. All public contracts are now processed electronically, significantly reducing human intervention and, consequently, corruption risks. Prozorro manages approximately 320,000 tenders annually.

The procedure is two-staged, with first-round bids typically made public. However, for security reasons, this transparency has been suspended during the Russian invasion. The civil society organization Dozorro monitors submissions and reports questionable offers to the relevant government authorities. According to official Ukrainian sources, Prozorro saves roughly USD 1 billion annually in procurement costs.

The War as a Driver of Digitalization

The foundations for Ukraine's three pillars of digital transformation were established well before the Russian invasion. The war, however, significantly accelerated this progress. According to Mykhailo Fedorov, Ukraine's Minister for Digital Transformation, digitalization was decisive during the early weeks of the conflict. The banking system continued to operate reliably, as did salary and pension disbursements. Despite power outages and missile strikes, administrative operations remained stable and largely functional.

The resilience demonstrated by Ukraine's robust IT infrastructure during wartime is also reflected in export statistics. Even before the Russian invasion, the IT sector was a key economic driver and the country's second-largest export industry. Today, Ukraine has earned an international reputation as a provider of complex IT solutions. The industry has grown despite wartime challenges, with more than 2,000 IT companies generating billions in export revenue even under conflict conditions.

Public Cloud as a Growth Market

The conflict has also accelerated innovation in Ukraine's public cloud sector. The market is expanding rapidly, driven by high demand for digital transformation services. Cloud technologies are crucial for innovative solutions such as the services offered through Diia. Large portions of these services are now cloud-based, ensuring continuity during the war. According to Statista, demand is projected to reach approximately USD 900 million in 2025, with "Software as a Service" representing roughly one-third of revenues.

The success of these initiatives underscores the high priority Ukraine places on digitalization, as reflected in the establishment of a dedicated Ministry for Digital Transformation.

International Assistance as a Catalyst for Success

Ukraine has made significant strides in its digital transformation, thanks in large part to collaboration with other countries, organizations, and technology companies. International projects and initiatives provide critical growth momentum. For example, Ukraine has received extensive technical support from Estonia, and Germany along with other EU countries have contributed to advancing digital transformation, including knowledge documentation and secure data exchange.

Key Support for Knowledge Documentation

According to Germany's Federal Ministry for Digital and Transport (BMDV), Ukraine's digital transformation achievements provide an excellent foundation for exporting this knowledge. However, BMDV notes a challenge: many Ukrainian digital services are open-source, and technical documentation is often insufficient. The German

Corporation for International Cooperation (GIZ) seeks to support Ukraine in conducting this crucial documentation work.

EU Project Supports Secure Data Exchange

The European Union also provides support for secure data exchange. The EU4DigitalUA initiative focuses on multiple areas: optimizing digital government infrastructure, enhancing public digital services, strengthening cybersecurity, and protecting data privacy.

The results are substantial: over 50 digital services have been developed, and the Trembita system for government interaction has scaled successfully. Public services have become more efficient and accessible, cybersecurity has been strengthened, and Ukraine has been brought closer to the EU digital single market. These accomplishments have received international recognition, with the OECD noting "significant progress in accelerating digital transformation" in a 2024 report.

Post-War Recovery and Private Investment

Important post-war recovery initiatives are guided by the Center for Strategic and International Studies (CSIS), a U.S. non-profit think tank, in collaboration with Ukraine's National Recovery Plan. The goal is to support rapid economic reconstruction, with private investors playing a key role in mobilizing the necessary resources.

Data Rescue via Cloud

A prerequisite for reconstruction was the rapid safeguarding of critical data from servers distributed across the country. The legal framework was provided by Ukraine's Cloud Services Act, enacted shortly before the war, which allows cloud usage for critical infrastructure operators and government agencies. Previously, local servers were mandatory, making them vulnerable to cyberattacks and bombing.

Unbureaucratic support for data migration came from Amazon Web Services (AWS), which assisted the Ukrainian government immediately after the invasion by digitizing and storing crucial documents and information in the cloud. Within just ten weeks, approximately 15 petabytes of critical infrastructure data were uploaded, protecting vital information on property ownership, land registries, and banking records from destruction.

Mutual Benefits for Other Countries

International knowledge exchange is mutually beneficial. Just as Estonia and other countries have supported Ukraine, Ukrainian expertise can drive digital progress elsewhere. Ukraine is a participant in the global GovStack partnership, which provides governments and organizations with a “toolkit” to build efficient and cost-effective digital services. Open-source solutions from Ukraine, including Diia, shorten the path to digital transformation for other countries.

This principle of reciprocal learning and sharing is a cornerstone of modern states and social cohesion, enabling peaceful coexistence based on resilient and crisis-proof digital infrastructure. Ukraine is fully integrated into the international community and actively shares its digitalization experience. In addition to Berlin, a second GovTech Campus was recently opened in Kyiv with support from the International Monetary Fund (IMF).

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