



State Comptroller of Israel | Local Government Audit
Report | July 2024

Information Systems

Computerization of Small Local Authorities



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Background

In Israel, most of the residents' daily needs are provided through local government services, and the use of computerized information systems to manage the affairs of the local authority has become a fundamental and committed necessity of reality. Establishing a suitable technological infrastructure and appointing experts to supervise and advance these systems within local authorities to ensure the integrity and resilience of these systems against various internal and external threats, whether deliberate or accidental, is essential. Computerized information systems and the security of the information contained therein are not affected by the characteristics of the local authority – every authority must provide its residents with essential services. However, the size of the local authority, influenced by its population, impacts its economic resilience, as it offers advantages in developing local infrastructures, in the provision of municipal services, and in general administration.

The economic implications are particularly significant in the computing sector, which is known for its high costs associated with developing new systems, procuring existing ones, and hiring qualified personnel. Additionally, investment in computing is ongoing, as it is characterized by constant changes and updates, and considerable resources are needed to keep up with the changes and adapt existing systems.



Key Figures

**in about
50%**

of the local authorities (122 out of 259¹), the number of residents is less than 15,000

in only 80

out of the 259 local authorities, CIOs (Chief Information Systems Officers) are employed, and 30 of them are outsourced as of July 2023

**in 5 out of
12**

regional clusters, regional CIOs were established

only 15

local authorities are rated high on the digital maturity index as of 2023, according to the Ministry of Interior assessment

**less than
1%**

of the budget of **Elyakhin, Beit Dagan, Jaljulia, Fureidis, and Kiryat Ye'arim** in 2021 was allocated to the computer field (between about NIS 226,000 and NIS 568,000)

**about NIS
24.5
million
(about
56%)**

of the commitments provided by the National Digital Agency to 231 local authorities as part of a call to upgrade computer infrastructures were not realized

**only 12
small local
authorities²**

about 10% of all small local authorities, have participated in the Ministry of Interior's Digital Leaders program since its inception in 2017 (69 local authorities out of the 259 – about 27%)

0 databases


were duly registered at the Ministry of Justice by **Elyakhin** and **Fureidis** (they did not even know the nature of the databases they possess)

¹ In the data file of the Central Bureau of Statistics updated for 2021, 258 local authorities were included, but on May 31, 2023, the Minister of Interior decree went into effect declaring the locality of Zur Hadassah a local council. Therefore, at the time of writing the report, 259 local authorities are registered in Israel.



² This report refers to an authority with up to 15,000 inhabitants as a "small local authority", since about half of the local authorities in Israel have a population of less than 15,000 inhabitants.



Audit Actions

 From January to December 2023, the State Comptroller's Office examined the handling of computerization in small local authorities with up to 15,000 residents, including the local authorities' expenses in this field and their ways of protecting the systems and the information collected within their jurisdiction. The audit was conducted in six small local authorities: **Elyakhin, Beit Dagan, Jaljulia, Fureidis, Kiryat Ye'arim**, and the **Merhavim**³ regional council (the examined local authorities). Completion examinations were carried out at the Ministry of Interior.

Key Findings

-  **Regulating the Computing Field in Local Authorities** – the computing field in local authorities is not regulated. The Ministry of Interior has not published mandatory guidelines for local authorities and has not defined a standard for the level of computing therein; therefore, each local authority operates at its discretion. This is despite the comparative research recommendation to standardize digital services as a key goal and despite the State Comptroller's previous reports in 2021 and 2022 stating that local authorities lack a leading, coordinating, or representing body in digitization, both concerning the promotion of digitization among them and reducing the gaps between them in this area, as well as regarding the digitization of their work interfaces with the central government, and concerning data security and protection against cyber threats.
-  **Mapping Digitization in Local Authorities** – although the Ministry of Interior guidelines from 2018–2019 clarify that the first stage in the digital transformation⁴ process should be based on mapping the current digital situation in the local authority, it was found that other than two mapping attempts made by the Ministry of Interior in 2020 and 2021, no government body and not even the Federation of Local Authorities in Israel has a clear picture regarding the existing information systems in local authorities,

3 Data and findings regarding the Merhavim Regional Council were not included in the computer expenses chapter, since during the audit Swords of Iron war broke out, preventing the council from furnishing all the required documents.

4 Digital transformation – A tool designed so organizations could reach customers through the new channels they use, improve the customer experience, adapt technology to employee expectations, and assist in the development of smart products and services. See: The Development Administration at the Ministry of Interior, **Digital Development Axis and Promotion of Innovation – Comprehensive Development Plan** (2019).








software and hardware infrastructures, channels of inquiry and their information, or online service array.

-  **Planning the Digitization in Local Authorities** – despite the Ministry of Interior's recommendations to promote digital transformation in the local authority, each local authority should map the existing situation and prepare master and work plans. The local authorities of **Elyakhin, Beit Dagan, Fureidis, and Kiryat Ye'arim** have not mapped the information systems and computing infrastructures, and **Elyakhin, Fureidis, and Kiryat Ye'arim**, have no inventory list of their end-user stations; The examined local authorities (except for **Jaljulia**) have not developed a master plan or strategy for the digital promotion of the authority, and therefore the decision-making regarding the acquisition of systems in these authorities is not based on a work plan and prioritization.
-  **Personnel** – as of July 2023, about 80 out of 259 local authorities employ Chief Information Systems Officers (CIOs), with around 30 being outsourced. Regional CIOs were established in 5 of the 12 regional clusters. None of the examined local authorities – **Elyakhin, Beit Dagan, Jaljulia, Merhavim, Fureidis, and Kiryat Ye'arim** – employ a CIO as a member of the local authority staff.
-  **Development and Training of Digital Human Capital** – representatives from about 27% of local authorities participated in the "Digital Leaders" program over its six-year duration, including 12 small authorities with under 15,000 residents. None of the examined local authorities – **Elyakhin, Beit Dagan, Jaljulia, Merhavim, Fureidis, and Kiryat Ye'arim** – have trained officials within the "Digital Leaders" program.
-  **Computerized Systems in Use by the Examined Small Local Authorities** – the Ministry of Interior and the National Digital Agency have not determined a recommended system for local authority management; hence, each authority was obligated to select its systems independently. **Fureidis** does not have a Local Area Network (LAN). **Elyakhin, Fureidis**, and the **Merhavim** Regional Council do not utilize the Geographic Information System (GIS). **Elyakhin, Beit Dagan, Fureidis, and Merhavim** do not use the Business Intelligence (BI) system. **Elyakhin, Jaljulia, Fureidis, and Merhavim** do not employ a CRM system to manage resident inquiries.
-  **Use of Official Email Addresses** – contrary to guidelines prohibiting the use of private email for digital document management, **Fureidis** utilizes private, non-official email addresses. Some employees in **Elyakhin** and the **Merhavim** Regional Council also rely on private email instead of the official address.
-  **Telephone Emergency Call Center for Residents During the Swords of Iron War** – 28 local authorities, including 20 small ones, did not operate a 24-hour emergency call center. 19 authorities, including 13 small ones, offered residents online responses exclusively through website contact or text messages, which did not guarantee immediate human responses during emergencies. Among the authorities examined, **Beit Dagan** and **Merhavim** partially operated a hotline; **Beit Dagan's** internal hotline was







available until 3 PM, after which calls were redirected to an external hotline, while **Merhavim's** hotline functioned between 8 AM and 8 PM. **Jaljulia** and **Fureidis** provided online call centers only, whereas only **Kiryat Ye'arim** maintained a 24-hour hotline.

-  **Ways to Contact the Municipal Hotline** – none of the examined local authorities offered a chat option on their websites, and they do not provide a computerized information station (kiosk) for residents without access to personal computers or the internet. **Elyakhin, Beit Dagan,** and **Fureidis** do not facilitate applications via WhatsApp. **Fureidis's** website is partially in Hebrew and partially in Arabic, complicating navigation for speakers of both languages.
-  **Payments and Submission of Inquiries on Websites** – among the 16 online services evaluated, **Elyakhin** offers 6 services, **Beit Dagan** provides 9, **Jaljulia** offers 5, **Fureidis** provides 3, **Kiryat Ye'arim** offers 6, and the **Merhavim** Regional Council offers 6 services. Consequently, in 5 of the 6 examined local authorities, paying the business licensing fee or the request for information fee online is impossible.
-  **Budget Allocation** – the computing expenses in **Elyakhin, Beit Dagan, Jaljulia, Fureidis,** and **Kiryat Ye'arim** ranged from about NIS 226,000 to NIS 568,000 in 2021, with less than 1% of their budget allocated to computing. Furthermore, **Elyakhin, Beit Dagan, Kiryat Ye'arim,** and **Fureidis** set their computing budgets for 2021–2023 based on the previous year's budget rather than a forward-looking work plan. These councils deviated from their approved annual computing budgets for 2020 to 2022, with deviations ranging from an unutilized budget of about NIS 149,000 to an excess of about NIS 234,000. Nonetheless, these deviations are not materially significant compared to the overall authority budget, indicating that the set budgets are inadequate for the authority's computing needs.
-  **External Funding Sources** – 231 local authorities received commitment letters from the National Digital Agency for infrastructure upgrades; However, about NIS 24.5 million (about 56%) of these commitments were not realized. The low realization rate suggests a lack of adequate support during the proposal submission process, implementation, and reporting, alongside a suboptimal budgeting model. Three of the examined local authorities – **Elyakhin, Beit Dagan,** and **Kiryat Ye'arim** – approached the call for proposals for advanced digital projects. However, **Elyakhin** and **Beit Dagan** did not utilize their approved budgets. The underutilization of allocated budgets was attributed to the local authorities' self-participation rates, a condition stipulated by the National Digital Agency for its support, delayed report submissions, and an inability to perform budget conversions for related computing infrastructure costs post-project definition.
-  **Securing the Computerized Information** – as of July 2023, **Elyakhin, Beit Dagan, Fureidis,** and **Merhavim** lack personnel to hold the designated information security officer position mandated by the Protection of Privacy Law. Additionally, contrary to what is required by information security regulations, **Elyakhin, Beit Dagan, Fureidis, Merhavim,** and **Kiryat Ye'arim** have not devised plans to control information security



in their databases. **Elyakhin, Beit Dagan, and Fureidis** have not established information security procedures or maintained an inventory of hardware components. It should be noted that, following the audit, **Beit Dagan** contracted an external consultant in August 2023 for information security services and appointed him as the information security officer in March 2024, leading to the development of three information security procedures: physical and logical security procedure, user and authorization procedure and outsourcing procedure.

-  **Controlling Access to Information Systems** – deficiencies were found in components necessary for securing database systems according to information security regulations in some of the examined local authorities, with internal server rooms. Agreements signed between **Beit Dagan, Jaljulia, Merhavim, and Kiryat Ye'arim** and their database-owning companies lack references to authorized local authority personnel. No engagement agreements exist for **Elyakhin** and **Fureidis** with their database holders. Furthermore, **Elyakhin** and **Fureidis** lack written guidelines on access privileges and do not track valid privileges. **Jaljulia** and **Kiryat Ye'arim** have not revoked access privileges for departed employees. **Elyakhin, Beit Dagan, and Fureidis** do not impose restrictions on mobile device access to their systems, nor do they notify relevant parties when a mobile device is connected, contrary to information security regulations.
-  **Backing Up Databases** – **Elyakhin** and **Fureidis** have not established data backup procedures and do not conduct regular backups as required. **Beit Dagan** lacks an internal backup procedure and does not supervise compliance with regulations regarding the external company managing its server. None of the examined local authorities – **Elyakhin, Beit Dagan, Jaljulia, Merhavim, Fureidis, and Kiryat Ye'arim** – have prepared disaster recovery plans under the National Cyber Directorate "Cyber Defense Theory" document.
-  **Information Security and Privacy Protection Audits** – none of the examined local authorities – **Elyakhin, Beit Dagan, Jaljulia, Merhavim, Fureidis, and Kiryat Ye'arim** – performed periodic internal or external audits, at least every 24 months, by a qualified factor other than the organization's information security officer, as required in regulations. The Senior Audit Division at the Ministry of Interior did not include information security in the external auditors' audit plans. No examined local authority had obtained insurance coverage for cyber incidents, nor was a risk assessment procedure conducted.
-  **Regulation of Cyber Protection in Local Authorities** – as of November 2023, no agreement has been reached regarding continuing the sectoral unit's activities within the Ministry of Interior concerning cyber protection regulation for local authorities. Until the end of 2023, the Ministry of Interior served solely as a supporting, advisory, and assisting body through its sectoral unit. Consequently, there has been an absence of coordinated



guidance for local authorities in cyberspace protection⁵. As a result, local authorities currently operate without comprehensive professional guidelines, leading to varied approaches based on individual discretion.





Annual Work Plan – Jaljulia has formulated annual work plans that address information security tasks to enhance supervision of compliance with information security regulations for 2022–2023. The 2022 work plan identified seven tasks in information security from a total of 25 digitization and computing tasks. Six of these tasks were successfully completed by the end of the year.

Management of the Computing Field in Jaljulia – despite being a small local authority within a low socio-economic cluster, **Jaljulia** has successfully advanced in the digital domain with limited resources, utilizing systems and tools often absent in larger, more established local authorities.






Computerized Systems Used by Local Authorities – in **Jaljulia** and **Kiryat Ye'arim**, with a computing officer subordinate to the CEO, the number of computerized systems is the highest among all authorities examined.

Key Recommendations

-  It is recommended that the Ministry of Interior issue binding instructions to facilitate digital transformation in local authorities and establish a minimum standard for computerization within them. Additionally, the National Digital Agency and the Ministry of Interior should compile a list of recommended systems for local authority management, outline criteria for provider selection, and promote the horizontal development of specific systems for universal use across local authorities.
-  **Elyakhin, Beit Dagan, Fureidis, Kiryat Ye'arim, and Merhavim** Regional Council should formulate a long-term strategy for computing and form a comprehensive master plan. This plan should include technological requirements and a practical implementation framework, encompassing budget and schedules.
-  Given the significance of information systems and digitization, it is recommended that **Elyakhin** and **Fureidis** appoint a professional body within their administrative framework to manage and advance this field. Furthermore, **Beit Dagan, Kiryat Ye'arim, and the Merhavim** Regional Council should involve the external manager of their computing services in decision-making within the local authority's management team.

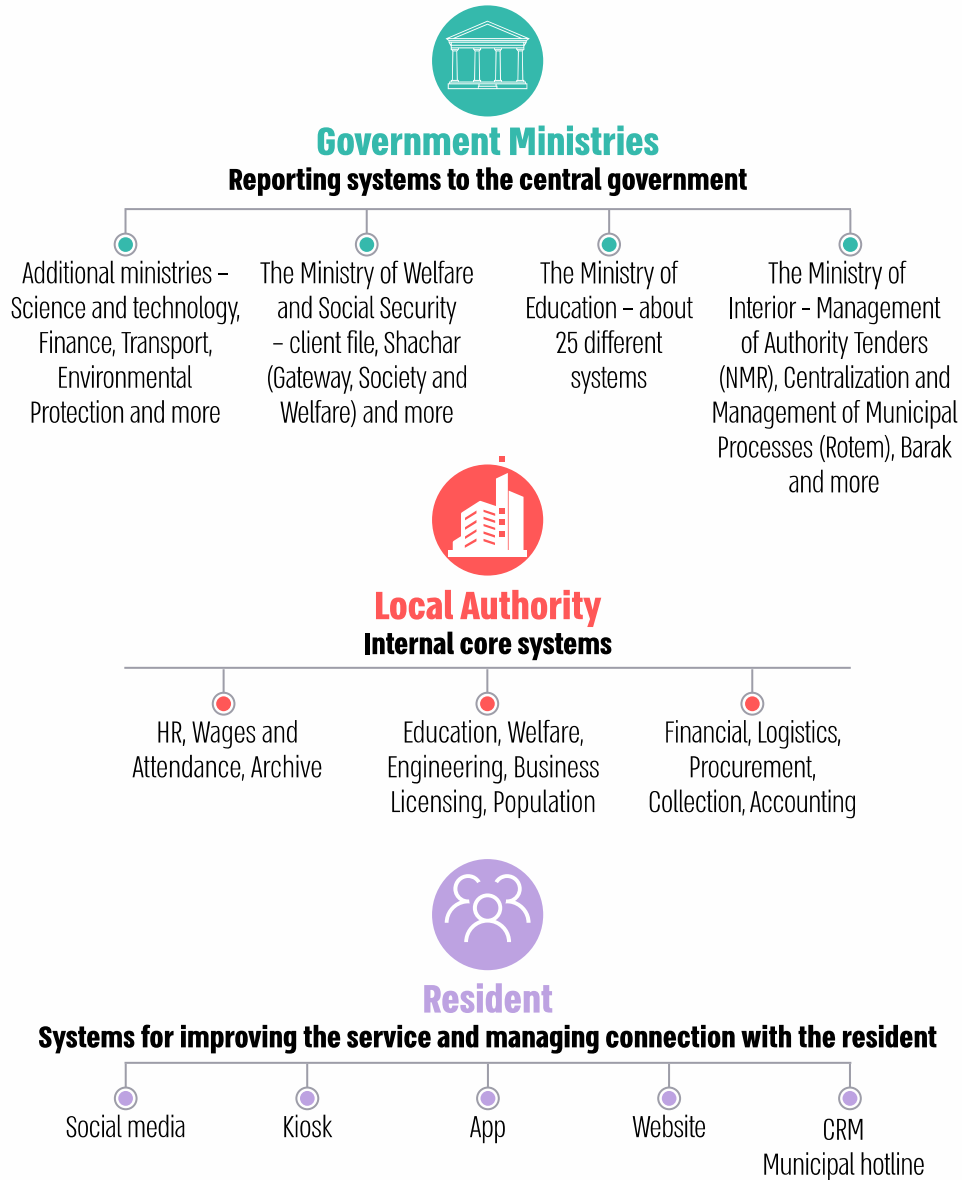
⁵ For more on this matter, see the chapter "Information security of collection systems in local authorities" in this collection of reports.



-  The Ministry of Interior should establish an incentive mechanism to encourage local authority representatives to participate in the "Digital Leaders" program and reassess the eligibility criteria for the "Digital Leaders" and "Digital Accelerators" programs. This reassessment should increase employee participation and emphasize training initiatives for smaller local authorities.
-  **Elyakhin, Beit Dagan, Kiryat Ye'arim, and Fureidis** should develop annual and multi-year computing plans linked to their budgets, incorporating performance indicators for execution. They must prepare a budget for the computing field according to their computing needs and approve necessary budget adjustments according to the utilization of budgets during the year as required by the provisions of the law. Moreover, it is recommended that the Ministry of Interior and the National Digital Agency explore the feasibility of integrating local authorities' annual budget proposals for computing as derivatives of multi-year budget plans, with all the implications deriving from this.
-  The National Digital Agency should examine the implementation of advanced digital projects following the calls for proposals, analyze the reasons why local and regional authorities are not implementing the budget, and identify ways for easing budget execution, including assessing local authorities' self-participation rates in financing digital initiatives (corresponding financing rate), especially for local authorities in lower socio-economic clusters and recovery plans.
-  **Elyakhin, Merhavim, and Fureidis** should appoint an information security officer and ensure that the appointment letter includes all details specified by information security regulations. Additionally, **Elyakhin** and **Fureidis** should prepare information security procedures as mandated. **Elyakhin** and **Fureidis** should create formal procedures for granting and revoking access privileges for current and former employees, maintaining an updated list. They should also establish a data backup procedure for their information systems and adhere to specified backup protocols. Furthermore, as outlined in the regulations, they must conduct periodic audits to ensure database compliance with information security standards.
-  Given the findings in this report and prior assessments indicating deficiencies in local authorities' information security practices, it is recommended that the Ministry of Interior incorporate information security into its annual audit plan or conduct special audits to monitor local authorities' deficiencies rectification.



Types of Computer Systems in Local Authorities



Source: According to previous reports of the State Comptroller and the Israel Democracy Institute, processed by the Office of the State Comptroller.



Summary

The lack of regulation in the computing field among local authorities exacerbates the digital gap and socio-economic inequality, undermining the relationship between local authorities and residents and hindering efficiency, cost savings, and economic growth. The audit findings indicate that small local authorities struggle to keep pace with technological advancements, update their computing infrastructure, and secure its information due to the absence of dedicated budgets and personnel. Consequently, each local authority addresses computerization based on its understanding and the resources it can allocate or secure from external funding sources.

However, the audit results from the **Jaljulia** and **Kiryat Ye'arim** demonstrate that recognizing computing's importance can lead to technological advancements, even in small local authorities lacking independent budgets.

Moreover, the audit indicates that the examined local authorities inadequately manage their information security. These authorities must rectify the report's deficiencies regarding the protection of information systems and the security of their databases.

Advancing computing capabilities in small local authorities is crucial for enhancing operational effectiveness and improving relationships with residents. The complexity of managing multiple computerized systems and service providers necessitates the employment of dedicated professionals with a comprehensive understanding of all systems and processes within the authority. Given the challenges small local authorities face in hiring such personnel, it is recommended that they designate a qualified individual within their administrative structure to supervise and promote the field or utilize the services of regional clusters' Chief Information Systems Officers (CIOs).