



Information Technology Audit:  
ICT across Local Councils  
March 2020



# Information Technology Audit

ICT across Local Councils

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# Information Technology Audit



## Analysing IT across various Local Councils

IT Management



Software Applications



IT Operations



## IT Management



Lack of IT staff at LCs



No formal ICT strategy



20%\* had an ICT budget



IT support - ranging from SLAs with suppliers to relying on a knowledgeable employee



Lack of expertise to assess ICT hardware needs



No IT hardware disposal procedure



Use of appropriate software licences. Need of software integration

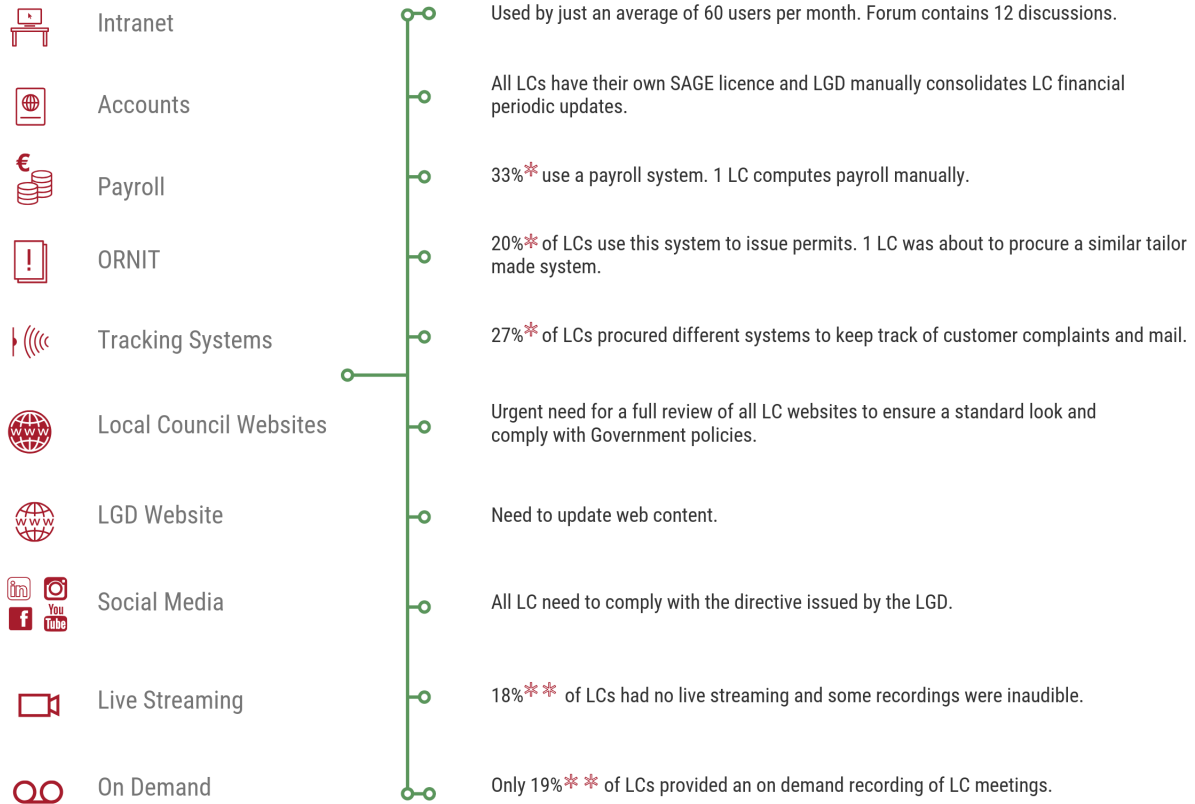


Lack of basic IT awareness

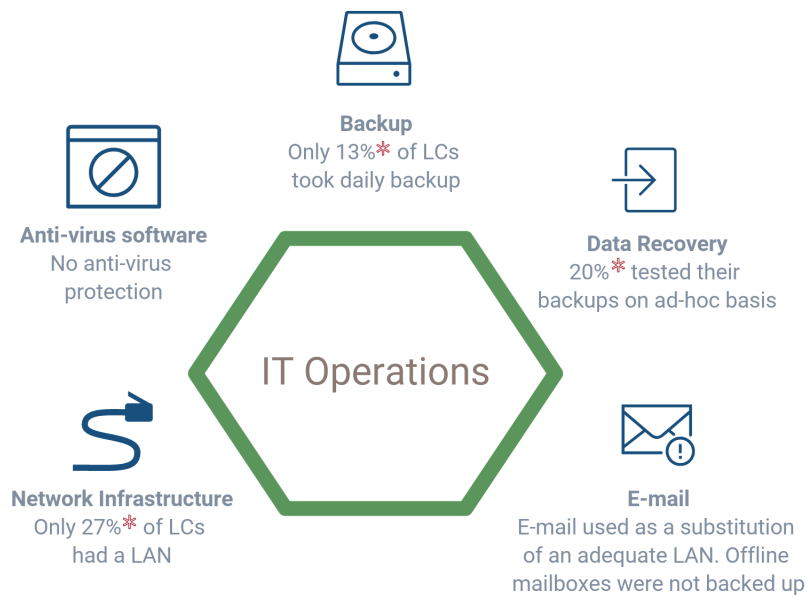


None accepted card payments

## Software Applications



## IT Operations



\* Percentage of the 15 LCs reviewed.

\*\* Live streaming and on demand services of all 68 LCs were reviewed.

## List of Abbreviations

ANSEK	The National Association for Local Council and Regional Executive Secretaries
CoBit	Control Objectives for Information and related Technology
DG	Director General
EPOS	Electronic Point-of-Sale
ICT	Information and Communications Technology
IFRS	International Financial Reporting Standards
IPS	Institute for Public Services
IT	Information Technology
LAN	Local Area Network
LCA	Local Councils Association
LESA	Local Enforcement System Agency
LGD	Local Government Division
MAGNET	Malta Government Network
MITA	Malta Information Technology Agency
NAO	National Audit Office
PC	Personal Computer
PQ	Parliamentary Question
WAN	Wide Area Network

# Executive Summary

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The scope of this Information Technology (IT) audit was to analyse various aspects of IT across various local councils. Furthermore, it sought to determine whether the local councils have the necessary controls to maintain data confidentiality, integrity and reliability. In this regard, the report identified potential risks and made the necessary recommendations to mitigate those risks. The critical IT aspects considered in this audit included IT management, software applications and IT operations at 15 local councils in Malta and Gozo.

Chapter two of this report includes the following key findings and recommendations made in relation to the review of IT management in the local councils that were audited:

1. **IT Staff** - The National Audit Office (NAO) observed that there are no duly qualified IT persons within the local councils, although some local councils may have IT knowledgeable staff. In line with the above, the NAO recommended that each regional council has an Information and Communications Technology (ICT) officer that would serve all the local councils.
2. **ICT Strategy** - None of the local councils visited had a formal documented ICT strategy, although two local councils had a detailed plan of their future ICT projects. The NAO recommended that the local councils formulate a strategy that makes reference to the planned IT and Information Systems projects over the next three to five years and prioritises them.
3. **IT Budget** - From the 15 local councils reviewed, only three stated that they provided for an ICT budget. The NAO recommends that every local council has an ICT budget that is based on priorities the councils' ICT strategy in line with the guidelines issued by the Local Government Division (LGD).
4. **IT Support** - The NAO observed that IT support in the audited local councils was provided in a variety of ways namely:
  - Service level agreements with a third-party supplier.
  - Informal arrangements with a third-party supplier to provide support on a best effort basis.
  - Assistance from an IT knowledgeable employee.
  - Engagement of ad-hoc suppliers.

The NAO believes that whilst local councils may still opt to outsource the provision of certain IT services, they need to have access to a professional IT officer as proposed in Section 2.1, who would help the council determine its IT business requirements and be able to independently coordinate and evaluate the third-party services required.

5. **IT Hardware Procurement** - Most of the local councils visited stated that they had difficulties in verifying and assessing ICT hardware needs due to lack of available IT expertise within the local council. The NAO recommends that the LGD, in consultation with the Local Councils Association (LCA) and the National Association for Local Council and Regional Executive Secretaries (ANSEK), discuss the possibility that IT hardware procurement is centralised in order to benefit from economies of scale and ensure that local councils procure the right product for their needs.
6. **IT Hardware Disposal** - When enquiring about the disposal procedures adopted by the local councils for IT hardware, which is considered obsolete or beyond economical repair, the NAO was informed that there was no formal documented procedure in any of the local councils visited. In order to protect the local council's data, the NAO recommends that all storage devices must be properly erased before being disposed of. Furthermore, hard-drives are to be removed and rendered unreadable prior to their disposal.
7. **IT Training** - The NAO noted that the only training that was given to local council staff covered the use of the SAGE accounting package, the Contracts eProcurement system and LGD's Intranet. The NAO observed that most local councils were unaware of the relevant IT training courses being offered by the Institute for Public Services (IPS) free of charge. The NAO recommends that local council employees are given training in the basics of IT covering areas such as Local Area Networks (LANs), servers, modems, data backups, etc.
8. **Card Payment Facility** - Whilst reviewing the IT setup of 15 different local councils, the NAO noted that none of the councils visited, accepted card payments. The NAO suggests that the LGD looks into this issue and considers issuing a policy regarding the introduction of Electronic Point-of-Sale (EPOS) machines at the local councils. This would be in the best interest of both the local councils themselves as well as their citizens.

The following are the key findings and recommendations listed in Chapter three, which relate to the review of IT applications in the audited local councils:

1. **Accounting system** - The NAO observed that to date, the 68 local councils and five regional councils are keeping their own accounting system separately from each other and not connected in any way with the LGD. The NAO was also informed that the LGD manually consolidates the accounting information sent periodically by each local council. The NAO recommends that in the short term, the LGD should follow up on its plans to implement a system which would automate the collation of financial updates from the local councils on to a central system administered by the LGD. In the long term, the NAO recommends that the LGD, together with the Treasury Department, reassesses the possibility of including local councils in the Government central accounting system.

2. **Payroll system** - The NAO noted that five local councils out of the 15 reviewed, procured a payroll system, two of which were using the same system. One local council stated that the payroll is computed manually, whilst another two local councils use a spreadsheet. Six local councils outsourced this function to an external accountant and thus do not require any software. The NAO recommends that the LGD, in consultation with LCA and ANSEK, considers the possibility of investing in one payroll system for all local councils. In this way, the cost of ownership would be cheaper.
3. **ORNIT** - During the course of this audit, the NAO noted that three of the local councils visited, have procured a tailor-made system to issue and keep track of permits, called ORNIT, which required a number of changes and fixes. The NAO also noted that another council was about to procure a similar system, which was being built from scratch by another supplier. Another three of the local councils visited showed interest in accessing it, however, the costs were considered prohibitive by these local councils. The NAO recommends that local councils invest in one integrated system and that the local councils using the current ORNIT system, should ensure that the necessary changes and fixes are done by the related supplier.
4. **Customer complaints and mail tracking systems** - During the on-site visits, the NAO noted that four local councils had procured different systems to keep track of customer complaints, mail, etc. The NAO recommends that the LGD, in consultation with the LCA and the ANSEK, discusses the possibility of investing in a system for all local councils. In this way, the local councils would benefit from standardisation and economies of scale.
5. **Local council websites** - The NAO reviewed 42 localities and observed a number of shortcomings listed in Section 3.6. The NAO recommends that the LGD invites all local councils to standardise their website addresses. Furthermore, the LGD should oblige local councils to comply with the Government's *'Website Content and Presentation Standard'* and commission an audit of the current local council websites.
6. **Live streaming local council meetings** - As part of this audit, the NAO verified whether the local councils are providing live streaming of local council meetings. The NAO noted that all local councils have implemented this facility, however:
  - 12 local councils have a non-functioning live streaming system.
  - Nine local councils have live cameras always on, which show the daily on-goings within the meeting room.
  - One local council had one of its cameras pointing to a wrong angle.
  - 46 local councils did not publish the next meeting date and thus made it very difficult for the citizen to follow live streams.
  - Some recordings were inaudible.

The NAO suggests that the LGD appoints a person to audit this live streaming facility to ensure that the local councils are publishing the date of their next council meeting, live streaming cameras are not left on when there are no council meetings and that the quality of these live streams is adequate.

7. **On-demand facility** - The NAO noted that only 13 (out of 68) local councils have implemented the on-demand facility. However, in most cases the sound was not clear, or the image was static. The NAO observed that only two local councils had a good on-demand facility. The NAO suggests that the LGD entrusts a technical person to audit the quality of these recordings, from time to time, so as to make sure that such recordings are of good quality.

Chapter four includes the following key findings and recommendations made in relation to the review of IT operations of the local councils that were audited:

1. **Anti-virus software** - The NAO also observed that most of the local councils visited use the PCs with the software as purchased. Given that these PCs are not Windows 10, these machines have no anti-virus protection. The NAO recommends that the LGD helps the local councils ensure that adequate anti-virus protection is installed on all their computers.
2. **Data Backup** - The NAO noted that from the 15 councils reviewed, only three councils were taking automated daily backups of the data stored on their server whereas:
  - Two local councils had automated daily backups of the data held by the Executive Secretary only.
  - One local council had automated weekly backups of the Executive Secretary's PC made to its local server.
  - One local council did ad-hoc backups on a mirrored hard-drive.
  - Three local councils did ad-hoc backups on external hard-drives with one of these councils stating that this was done every two to four weeks.
  - Two local councils did ad-hoc backup of particular files on a pen-drive that was kept by the Executive Secretary.
  - One local council was completely unaware of whether backups were being taken.
  - Two local councils were aware that no backups were being done.

The NAO recommends that the LGD helps the local councils ensure that adequate automated daily backups of all data on the councils' PCs are taken. Such backups should be hosted as per the Data Protection Act<sup>1</sup> and periodic restores of such data should be performed. Moreover, the NAO opines that a sound off-site storage facility of backups should be set up for all local councils.

3. **Recovery of data** - The NAO noted that three out of the 15 local councils visited, had tested their backups on ad-hoc basis. The NAO however was not provided with any evidence documenting such testing and thus could not ascertain whether such tests were actually carried out. The NAO observed that other local councils were indirectly restoring partial backup data when files were taken home by Executive Secretaries on portable storage media (used for backup) and are then accessed from home. The NAO recommends that all backups are to be fully restored at least once a year and such testing is documented with a screenshot showing that the data was successfully restored from backups. The NAO suggests that the LGD monitors the local councils from time-to-time to ensure that this was being done.
4. **Portable devices** - During this IT audit, the NAO enquired about the use of such devices in the local councils visited. The NAO noted that personal (i.e. employee or councillor-owned) portable devices can be used in all the local councils visited, to access Internet and e-mail through segregated Wi-Fi connections. The NAO observed that such devices were not allowed to access the internal networks (albeit the number of these was very limited) and made a number of recommendations in this regard.
5. **Network Infrastructure** - During this audit, the NAO sought to obtain a general idea of the type of network infrastructure that is available within the local council offices. It was disappointing that only four of the 15 local councils visited had a functioning network of PCs. The NAO recommends that the LGD assists all local councils in this regard by either setting up appropriate LANs in all offices or oversee and manage the setting up of such LANs by third-parties.

Chapter five of the report includes the management comments and timeline for the implementation of the recommendations listed in this report as submitted by the LGD.

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<sup>1</sup> <http://justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12839&l=1>

# Chapter 1

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## Overview

This chapter provides background information about the audit. It also includes the audit scope and objectives and describes the methodology used in attaining them.

### 1.1 Background

IT is fundamental to the operations of Government organisations. Technology is embedded in most business processes, and it is increasingly becoming more critical because of the ever-growing expectations of the public.

As established by law, the NAO has conducted yearly financial audits in all local councils where IT and network infrastructure was often a cause of concern. Within this context, the NAO embarked on a horizontal exercise to gather an understanding of the current state of IT in local councils and recommend doable actions to address any shortcoming identified throughout this process.

The NAO reviewed the IT setup of 15 local councils, representing 22% of the total number of local councils. The audit sites selected were representative of all five regions throughout Malta and Gozo. This audit document can thus be considered indicative of the general IT situation in all local councils. It also includes recommendations for possible implementation. The NAO suggests that the LGD utilises this report to ensure that IT standards and related best practices are adopted by all local councils.

### 1.2 Organisation Structure

The LGD, led by a Director General (DG) with extensive experience in the area of Local Government, is composed of two Directorates and the DG Secretariat. One Directorate covers Local Government Strategy and Policy Implementation, whilst the other covers Monitoring and Support within Local Government. The IT, Legal, Accounts, EU and International Affairs Units all fall under the responsibility of the DG Secretariat.

The Organogram of the LGD is included in Annex A.

### 1.3 Legislation

The concept of Local Government was established in 1993, following the Maltese Parliament's approval of the Local Councils Act<sup>2</sup> (Chapter 363 of the Laws of Malta) on the 30<sup>th</sup> June 1993. This law set up local councils in 67 localities (later increased to 68) and now serves as a regulatory mechanism for local councils' operations.

The Local Councils Act was modelled on the European Charter of Local Self-Government (Council of Europe), which the Maltese Government had signed and ratified. According to this Act, a local council *"shall be a statutory local government authority having a distinct legal personality and capable of entering into contracts, of suing and being sued, and of doing all such things and entering into such transactions as are incidental or conducive to the exercise and performance of its functions as are allowed under the Act."*

Today, Malta has a total of 68 local councils, of which 54 are in Malta and 14 in Gozo. The Local Councils Act was revised considerably by the Local Councils (Amendment) Act 1999 (Act No. XXI of 1999) published on 21<sup>st</sup> December 1999, and Act No. XVI of 2009, as part of the Local Government Reform 2009.

Another important step taken to consolidate Local Government in Malta was when the system of Local Government was entrenched in the Constitution of Malta. In fact, on 24<sup>th</sup> April 2001, Act No. XIII of 2001 established that: *"The State shall adopt a system of local government whereby the territory of Malta shall be divided into such number of localities as may by law be from time to time determined, each locality to be administered by a local council elected by the residents of the locality and established and operating in terms of such law as may from time to time be in force."*

In October 2018, a white paper on *"A new Local Government Reform of Local and Regional Councils"*<sup>3</sup>, was published. Following a period of extensive consultation, this paper was officially implemented as soon as the island's newly elected councillors took office on the 1<sup>st</sup> July 2019, following local council elections which took place at the end of May of the same year. As a result of this reform, several legislative, administrative and operational changes in the way local authorities operate (Local and Regional Councils) took place.

The Local Councils Act is divided into seven parts and has eleven schedules as follows:

- Part I. Title, Commencement and Interpretation
- Part II. Constitution of Councils
- Part III. The Office of Mayor
- Part IV. Functions of Local Councils, Procedure and Meetings
- Part V. Officers and Employees
- Part VI. Finance
- Part VII. Miscellaneous Provisions

<sup>2</sup> <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=8833&l=1>

<sup>3</sup> [https://meae.gov.mt/en/Public\\_Consultations/MJCL/Documents/Riforma%20Booklet%20EN.pdf](https://meae.gov.mt/en/Public_Consultations/MJCL/Documents/Riforma%20Booklet%20EN.pdf)

The schedules deal with:

1. Coats-of-Arms
2. Localities and their boundaries
3. Local Council (Elections) Regulations
4. Items excluded from responsibility of Local Councils
5. Oath of Office of Councillors/Mayor/Deputy Mayor
6. Standing Orders
7. Election of Mayor and Deputy Mayor
8. Approved Non-Governmental Organisations
9. List of Member countries of the Council of Europe whose nationals are entitled to vote in Local Council Elections
10. Financial allocation to Councils
11. List of Hamlets and their boundaries

#### **1.4 Audit Scope and Objectives**

The scope of this IT audit was to analyse various aspects of IT across a sample of 22% of all local councils. Furthermore, it sought to determine whether the local councils have the necessary controls to maintain data confidentiality, integrity and reliability. The report identified potential risks and made the necessary recommendations to mitigate those risks.

The context within which local councils are currently operating in was taken into consideration when making the recommendations highlighted in this report.

The IT audit was divided into four different stages:

- An initial meeting was held with the LGD, which sought to gather a wide understanding of the current situation and the challenges faced by both the Division and the local councils. Another meeting was held with the Head of IT of the LGD, where ICT in local councils was discussed in greater detail.
- Subsequently, the NAO conducted an extensive review of the ICT setup of 15 local councils, which included a number of audit visits. These on-site visits sought to gather the information needed for this audit, including surveying the ICT assets on premises (including the server room, network cabinets, LAN/WAN, PCs and printers). During these audit visits, the NAO obtained related feedback from the respective local council's Executive Secretary, who is the person ultimately responsible for the administration of the local council. The NAO also met with all the related key stakeholders, to obtain their views on the management of ICT in local councils.

- The NAO also audited the Live Streaming, On-Demand Facilities of all the local councils and reviewed the websites of 62% of local councils.
- The final stage of this audit involved the analysis of data collected, and verifications of audit findings.

During this IT audit, the NAO looked into the physical and logical access controls, adherence to ICT policies, standards and procedures, network infrastructure, security controls and data backups. In this regard, the objectives of this report were to:

- Document all the information collected during site visits and meetings with key stakeholders and officials.
- Summarise the documentation collected and elicit the area/s of concern.
- List the recommendations to mitigate the identified risks.
- Draft a set of recommendations that could be implemented across all local councils in Malta and Gozo.

## 1.5 Audit Methodology

In order to attain the above objectives, the audit methodology adopted by the NAO was based on the Control Objectives for Information and related Technology (CoBit) set of best practice guidelines.

CoBit is a comprehensive set of resources that contains all the information organisations need to adopt an IT governance and control framework. CoBit provides good practices across a domain and process framework in a manageable and logical structure to help optimise IT-enabled investments and ensure that IT is successful in delivering against business requirements. The controls that were considered during this audit are listed in Annex B.

## **1.6 Structure of the Report**

This report includes four further chapters:

- Chapter two deals with the IT management perspective and analyses the procedures and the way in which ICT resources are managed in the local councils.
- Chapter three includes a review of the IT applications and online services utilised by the local councils.
- Chapter four covers the ICT operations and the measures adopted by the local councils to maintain the confidentiality, integrity and availability of data.
- Chapter five lists the management comments and includes the agreed implementation schedule.

## **1.7 Acknowledgements**

The NAO would like to express its appreciation to all the key stakeholders who were involved in this audit, including the Director General, the Director Monitoring and Support, the Head of IT within the LGD and the Local Council Executive Secretaries, for their time and assistance.

# Chapter 2

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## IT Management

This chapter focuses on IT Governance and reviews the way in which ICT resources are procured, managed and disposed of. Furthermore, it reviews the availability of ICT support in local councils as well as the provision of the IT/Security Awareness training being given to local council employees.

### 2.1 IT Unit

The LGD has an IT unit, which provides ICT support to the division, and co-ordinates selected IT projects within the local councils. This IT unit is composed of the Head of IT and two IT facilitators.

The NAO observed that there are no duly qualified IT persons within the local councils, although some local councils may have IT knowledgeable staff.

### Recommendations

The NAO is of the opinion that local councils should have access to a qualified IT person to give them professional advice and help them implement IT initiatives rather than depending on voluntary assistance from staff who may not be qualified.

In line with the above, the NAO suggests that each regional council has an ICT officer that would serve all the local councils within that region and who would be responsible for:

- Hardware and software support.
- IT policies and management.
- Provision, service and maintenance of network infrastructure.
- Establishing and co-ordinating communication with all external IT service providers.
- Establishing a working relationship with the IT unit at the LGD.

Furthermore, the NAO recommends that the IT Unit of the LGD is allocated an extra resource to coordinate the work of the above-mentioned ICT officers responsible for the implementation of the ICT recommendations mentioned in this report in the various local councils.

## 2.2 ICT Strategy

An ICT Strategy is a comprehensive plan consisting of objectives, principles and tactics relating to the use of ICT technology in an organisation. The ICT strategy is intended to express how technology is to be utilised so as to achieve the strategic goals of that particular organisation.

Nowadays, ICT is not just an enabler but can also be considered as a driver, and thus an organisation should have an ICT Strategy to ensure that the resources allocated to ICT are being used in line with the organisation's strategic goals.

An ICT Strategy is thus essential to ensure that all ICT development projects form part of an overall plan and prevent fragmented ICT development without the required central control and planning.

The NAO considers that an ICT Strategy is crucial for organisations like the local councils where resources are limited and one needs to derive the maximum value from its ICT investments in order to provide an excellent service to its citizens.

None of the local councils visited had a formal documented ICT strategy, however two local councils had a detailed plan of their future ICT projects.

### Recommendations

The NAO suggests that the local councils formulate a strategy that:

- Makes reference to the planned IT and Information Systems projects and outline how these initiatives link to the council's business strategy.
- Prioritises future ICT investments.
- Covers the ICT development being planned in the next three to five years.
- Refers to the logical and physical architecture of the local council's IT systems and infrastructure.

The ICT strategy, which need not be a highly technical and elaborate document, may be compiled by the Executive Secretaries with the help and guidance of the proposed ICT officers in the Regional councils and the Head of IT at the LGD.

This ICT strategy document, however, must be duly updated from time to time and changed in response to new organisational circumstances/priorities, budgetary constraints, available skill sets, new technologies and business objectives.

## 2.3 ICT Budget

During the course of this IT Audit, the NAO sought to establish whether local councils drew up annual budgets for their ICT needs or treat ICT as a one-off unplanned expense.

From the 15 local councils reviewed only three stated that they provided for an ICT budget. One of these councils stated that the budget only featured recurrent expenses such as accountancy software licence renewal and the telecommunication expenses. Another council stated that this budget covered costs related to the implementation of new initiatives but did not include the recurrent expenses. The other council stated that its ICT budget included both the recurrent and capital costs of planned future initiatives, such as the procurement of a new scanning machine, and the costs associated with the planned future use of cloud services.

### Recommendations

The NAO recommends that every local council has an ICT budget that is based on priorities that are established through the councils' ICT strategy in line with the guidelines issued by the LGD.

The ICT budget should incorporate:

- Running costs of IT systems, IT infrastructure and communication, such as the cost of software licences, internet connectivity, hardware maintenance and ICT training.
- Capital expenditure related to new ICT projects such as the laying of LANs, where necessary, and the procurement of software applications or ICT hardware.

## 2.4 IT Support in Local Councils

The NAO observed that:

- Two local councils had a service level agreement with a third-party supplier, who supports the hardware and the network infrastructure on-site.
- Three local councils have established an informal arrangement with a third-party supplier, who supports their hardware and the network infrastructure on a best-effort basis.
- Two local councils have an IT knowledgeable employee, who offers assistance as necessary.
- One local council had utilised a community worker, to provide the IT support required by the council.
- Seven local councils engaged ad-hoc suppliers as per the council IT needs.

## Recommendations

The NAO believes that whilst local councils may still opt to outsource the provision of certain IT services, they need to have access to a professional IT officer as proposed in Section 2.1, who would help the local council understand its IT business requirements and be able to independently coordinate and evaluate the third-party services required. The NAO recommends that the above would be closely monitored by the LGD.

### 2.5 Procurement of Hardware

The NAO reviewed the procurement of ICT hardware and analysed how the local councils identify their hardware procurement needs and the method of procurement adopted.

The NAO noted in most cases local councils tended to procure new hardware when:

- The old hardware was considered to be beyond economic repair.
- When an IT consultant, engaged by the council, recommended the procurement of hardware.

Most of the local councils visited stated that they had difficulties in verifying and assessing ICT hardware needs, due to lack of available IT expertise within the local council. During the walkabouts conducted, the NAO observed that the majority of the local councils lacked basic ICT investment in sharp contrast with a few others that had a higher level of ICT investment. The NAO enquired whether there were any guidelines in this regard. However, none were provided.

With regards to ICT procurement, the NAO observed that in general, local councils obtain the specifications of the hardware to be procured from a supplier. Three quotations are requested based on such specifications. Quotations from the supplier who originally supplied the specifications are generally also considered when selecting the best offer. Some of the Executive Secretaries stated that in view of the total lack of IT resources, they sometimes resorted to seek assistance from IT knowledgeable family members, local council employees or the councillors during the selection process.

## Recommendations

The NAO recommends that the LGD in consultation with LCA and ANSEK, discuss the possibility that procurement is centralised in order to benefit from economies of scale and ensure that local councils procure the right product for their needs.

The NAO also recommends that the LGD should issue a list of minimum specifications to be used when procuring standard ICT hardware.

## 2.6 Procurement of Software

When reviewing the software applications procured by the local councils, the NAO observed that most councils procured mainly accounting software applications. The rest of the software applications used formed part of the pre-installed packages found in new PCs/laptops. Most Executive Secretaries interviewed were not aware that the pre-installed software on their PCs was licensed for home use (as opposed to business use) and should not be used by a public entity like the local council.

The NAO observed that some local councils were still using manual registers to keep track of permits issued, requests for collection of bulky refuse, etc. On the other hand, the NAO noted that three of the councils visited had procured tailor-made software to automate the issuance of permits; however, in these cases, specifications were simply discussed with the supplier concerned without prior formal software requirements analysis. The NAO was also informed that another local council will be investing in a similar system that was being built from scratch by another supplier. The NAO understands that the implementation of such stand-alone systems does not encourage the sharing of data related to permits affecting neighbouring localities.

The NAO observed that some small local councils may find it very hard to invest in software that can be used to automate their processes, as the funds available to such councils are limited. In these cases, councils were often constrained to use manual, time-consuming methods such as physically marking printouts of village maps to co-ordinate road closures on a daily basis.

During the site visits conducted, the NAO noted that local councils made use of several software applications that were owned by third-parties such as Wasteserv, Local Enforcement System Agency (LESA), the Lands Department, the Transport Malta, etc. The NAO noted that each one of these systems was accessed separately when processing citizens' requests.

### Recommendations

The NAO recommends that the LGD ensures that all local councils are using the intended software licences for use by organisations. The NAO suggests that the LGD, in consultation with LCA and ANSEK, considers the possibility of adopting centralised procurement of software licences to be distributed to local councils as needed. An appropriate inventory of all software licences should be kept.

Moreover, the NAO recommends that the procurement of new software applications by local councils follows a structured software life cycle to ensure that the software procured meets their business requirements.

The NAO understands that the needs of local councils may differ due to the different exigencies of localities (i.e. a locality surrounded by sea may need to issue permits for barbecues, whilst a locality with high development would have a high turnover of crane permits) and thus suggests

that the local councils discuss their specific software requirements between themselves and with the LGD prior to making any investment, so as to develop software that would address the needs of a maximum number of local councils. The latter would favour the sharing of information (such as permits) between local councils such as permits affecting the roads of neighbouring localities. The NAO also suggests that the LGD looks into ways of helping councils with limited funds to benefit from the use of adequate tailor-made software to manage mail, issue permits, track blocked roads, manage payroll or track the stage of customer complaints.

Regarding the present situation whereby local councils make use of a number of software applications that are owned by other entities, the NAO suggests that the LGD looks into the possibility of integrating access to all these systems through one single portal.

## 2.7 Hardware Disposal

During this audit, the NAO enquired about the disposal procedures adopted by the local councils for IT hardware, which is considered obsolete or beyond economical repair. The NAO was informed that there was no formal documented procedure in any of the local councils visited. The NAO observed that most local councils either kept such obsolete hardware on site or disposed of it through third-party suppliers. The NAO positively noted that one particular council was planning to refurbish old computers and intended to use such hardware to create a computer lab at the local council or donate this hardware as charity within the community.

### Recommendations

The disposal of computer equipment, which may contain any sort of storage media, cannot be simply thrown away. In order to protect the local council's data, all storage devices must be properly erased before being disposed of. It must be noted that, deleting or even formatting data is not considered sufficient. When deleting files or formatting a device, data is marked for deletion, but is still accessible until being overwritten by a new file. Therefore, all data, including all files and licensed software, must be removed from such equipment using a data-wiping tool prior to its disposal. Furthermore, hard-drives are to be removed and rendered unreadable (by magnetising, drilling, crushing or using other effective demolition methods) prior to their disposal. In the case of computer equipment with non-functioning memory, this should be physically destroyed.

Although the NAO appreciates that the local councils may not have the technical knowledge or resources to deal with hardware disposal and perform data sanitising (as per procedure detailed above), discussions should be held with the LGD, so as to find a solution whereby this could be done at a Division or Regional level.

## 2.8 IT Training

The NAO acknowledges that for an entity to make the best use of IT, it needs to raise awareness, train and educate all employees.

The NAO noted that the only training that was given to local council staff covered:

- SAGE accounting software (organised by ANSEK).
- The E-Procurement system (organised by the Department of Contracts).
- The Intranet (organised by the LGD, which developed the system).

The NAO observed that most local councils were unaware of the relevant IT training courses being offered by the IPS free of charge. Attendance to training by some local council staff was not always possible as in some cases the local council office would need to close due to lack of staff.

### Recommendations

The NAO recommends that all local council employees are trained about the basics of IT, including:

- What is a network and its related benefits.
- File sharing methods vs sharing files over email.
- The importance of document version control.
- The functions of servers and modems.
- The benefits of saving data in one central repository.
- The importance of having regular backups which are restored from time to time.

Furthermore, the NAO is of the opinion that all local councils would benefit from training in office automation software, such as Microsoft Excel, which can be used to input the data which is currently still entered in registers manually by some local councils.

## 2.9 Use of EPOS machines

Whilst reviewing the IT set up of 15 different local councils, the NAO noted that none of the local councils visited, accepted card payments. All payments made by citizens were in cash or cheques. In large local councils this presented a security problem in view of the risks associated with routine deposit of council cash at the banks. Some small localities faced the additional problem of having to deposit funds in another village due to the absence of bank branches in their locality. The NAO noted that five of the local councils visited had engaged a private security firm to collect and deposit the cash at the bank.

### Recommendations

The NAO suggests that the LGD looks into this issue and considers issuing a policy regarding the introduction of EPOS machines at the local councils. This facility will not only be of benefit to citizens but would also alleviate the problem of local councils having to deal with large amounts of cash.

# Chapter 3

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## IT Applications

This Chapter includes a review of a number of software applications currently used at the local councils. The NAO noted that each local council has its own setup and thus there is no fixed list of software applications used by all councils. Therefore, the NAO reviewed the:

- Most common software applications.
- Local council websites.
- Social media presence.
- Online streaming facilities.
- On-demand facilities.
- Website and Intranet of the LGD.

### 3.1 Intranet

In November 2018, the LGD implemented an Intranet system called '*Intralocal*'. The NAO noted that the Division organised a training session for all local councils and went through the system explaining how it can be used.

This system:

- Is accessed by local council Executive Secretaries and authorised officials from the Division.
- Is accessible from anywhere by using the same credentials used for the Government email.
- Is aimed at promoting collaboration between the local councils and the LGD, as well as between the local councils themselves.
- Incorporates a central repository of all circulars and emails issued by the LGD.

- Includes a forum, which can be used by local councils to ask questions or discuss particular issues. This forum can also be used to refer to past questions and answers regarding a subject matter.
- Includes links to procurement legislation, regulations, templates, tenders and quotations.
- Includes links to financial legislation, procedures, regulations, audit procedures and various financial templates issued by the LGD.

The NAO was given access to this Intranet for auditing purposes and observed that the average number of hits per month was 202, of which the average number of unique users per month was 60. The NAO also noted that the forum on this Intranet had 23 members, with 12 discussions that incorporated 22 replies.

### Recommendations

The NAO believes that this Intranet is a very valuable tool. However, it should be better promoted so as to encourage and increase its use.

The NAO suggests that the LGD explores the possibility of giving Intranet access to all local council employees and use it to provide them with a dashboard of all the applications they need to access according to their user rights. The possibility of using the Intranet login credentials as a single sign-on for all the other applications should also be investigated.

### 3.2 Accounts (Sage)

The NAO observed that currently the 68 local councils and five regional councils are keeping their own accounting system separately from each other and are not connected in any way with the LGD.

The NAO noted that in 1998 the Department for Local Government instructed all local councils to install the Sage Accounting Package. From the audit visits carried out, the NAO noted that there are three versions of this software in use and the software licences are being paid by the local councils themselves.

The LGD has a legal obligation to monitor the operations of the local authorities in terms of the Local Councils Act (Cap. 363) and the Financial Regulations and Procedures to ensure that they have sound financial management. The LGD is also responsible to reply to Parliamentary Questions (PQs) and give the necessary information to the Minister responsible for Local Government.

The NAO is informed that local councils send periodic financial updates to the LGD. The LGD consolidates the accounting information sent by each local council manually as necessary. The NAO Financial and Compliance Section has occasionally reported that the financial statements presented by local councils were not fully compliant with the requirements of the International Financial Reporting Standards (IFRSs) and did not present an accurate picture of the financial position as at year end due to a number of errors.

The NAO noted that the LGD was considering these issues and was working on a project which would have the following functions:

- Mapping of local council chart of accounts to a “master” chart of accounts.
- Pushing of accounting data from local authorities.
- Pulling of accounting data from a “Central Point”.
- Monitoring of incoming data at “Central Point”.
- Reporting on consolidated data at “Central Point”.
- Reporting by individual local councils in terms of the Financial Regulations.

The LGD explained that through this project the Division would be able to:

- Collect data efficiently, more accurately and in a timely manner.
- Collect data uniformly, therefore income and expenditure by local councils will be inputted in codified accounts common to all local councils. This will allow for standardisation and will in turn increase effectiveness for audits purpose.
- Monitor in real-time, the data that is inputted by local councils in their accounting system.
- Detect if a local authority is not inputting data in a timely manner.
- Export data and also generate specific reports such as on particular line items.
- Generate reports by local councils in terms of the financial statutory reports, which will include a business plan, annual budget, quarterly reports, budget, administrative reports, Statement of Comprehensive Income, and Statement of Financial Position.

The NAO was informed that funding for this project was allocated and that the LGD had contacted the then Acting Accountant General in August 2016, regarding the possibility of widening the implementation of Governments' new accrual accounting system and utilising this system for the local councils.

### Recommendations

The NAO understands that including the local councils in the accrual accounting project may not be a priority in the short-term, however, the NAO recommends that the LGD re-engages in discussions with the Treasury Department to re-assess this in a few years. Should this not be a possibility, the NAO recommends that the Division follows a software project life cycle and conducts a holistic cost benefit analysis before implementing such a project. The Division should also follow the relevant procurement regulations.

Furthermore, the NAO recommends that the Division organises a hands-on training course for all officials with reference to this new software.

### 3.3 Payroll

The NAO noted that five local councils out of the 15 reviewed, procured a payroll system, two of which were using the same system. One local council stated that the payroll is computed manually, whilst another two local councils use a spreadsheet. Six local councils outsourced this function to an external accountant and thus they do not require any software.

### Recommendations

The NAO recommends that the LGD, in consultation with LCA and ANSEK, considers the possibility of investing in one payroll system which is standard all local councils. In this way, the cost of ownership would be cheaper.

### 3.4 ORNIT

During the course of this audit, the NAO noted that three of the local councils reviewed have procured a tailor-made system to issue permits, called ORNIT. The NAO also noted that another council was about to procure a similar system, which was being built from scratch by another supplier. Another three of the councils visited referred to this system and showed interest in accessing it, however, the costs were considered prohibitive by these councils.

The NAO observed that whilst the ORNIT system was being utilised to issue and keep track of all permits, the system had the following shortcomings:

- The system does not warn/block users if a road is already blocked by another permit, thus users need to keep separate records to avoid road closures from both ends.
- The maps used by the system and those previously printed as part of the permit, were no longer accessible, possibly due to the supplier not paying the licence fees for the use of such maps.
- The ID card numbers of local people born in the 90's and ID card numbers belonging to foreigners were not uploading in the system, possibly due to a lack of updating from the supplier.
- The system does not offer the facility of online payments.
- In some cases, the system loads incorrect street names upon printing.
- The system has no Maltese fonts.
- The system contains outdated permit templates.
- Does not allow local councils to customise or build a new template for permits without supplier intervention.
- The supplier is not receptive to user comments and does not provide timely support.
- The system may not be ideal when issuing permits that can affect bordering localities.

#### Recommendations

The NAO understands that such a system is indispensable for local councils that issue a large number of permits and thus cannot do so using a manual system. The NAO however recommends that local councils invest in one integrated system, and that the related local councils should approach the current supplier to fix all pending issues and provide timely support.

### 3.5 Tracking of Customer Complaints and Incoming Mail

During on-site visits, the NAO noted that four local councils had procured different systems to keep track of customer complaints, mail, etc. The NAO noted that other local councils use their employees' email inboxes as filing systems and thus do not have a proper indexing facility that would help them in finding records when these are needed and have no tracking of customer complaints.

#### Recommendations

Although the NAO understands that local councils may have different exigencies and business processes, an Indexing System that registers the progress made on customer complaints and register mail is a basic tool that is beneficial to all local councils.

The NAO recommends that the LGD, in consultation with LCA and ANSEK, discusses the possibility of joining up resources and investing in a system for all local councils. In this way, the local councils would benefit from standardisation and economies of scale. Should this be done, a structured software life cycle should follow, to ensure that the software procured meets current and future business requirements.

### 3.6 Local Councils Websites

Although a fully-fledged website audit of all the local council websites was not part of the scope of this audit exercise, the NAO reviewed 42 localities and observed that:

- 27 localities did not have a website address listed on the 'MyLocality' page on the LGD website; however, five of them actually had a website.
- Three websites that were listed on the 'MyLocality' page did not load.
- One website was last updated in October 2018.
- The website addresses are not standardised. The NAO noted that some local councils opted to use the English version of their locality name, others are using the Maltese version, some included the words '*local council*' as part of the website address, some did not. Furthermore, some local councils use a *gov.mt* domain whilst others use a *.com* or a *.org.mt* domain name.

- None of the websites reviewed fully comply with the Government's '*Website Content and Presentation Standard*' GMICT S 0051-1:2011<sup>4</sup> and do not include:
  - A copyright notice.
  - A privacy policy (refer to Annex D for guidance) (with the exception of four websites that had a privacy policy).
  - An accessibility statement (refer to Annex E for a template).
  - A help facility. The NAO noted that the websites reviewed are albeit very intuitive websites and the '*Help*' facility need not be an extensive one.
  - The *gov.mt* logo that links to the Government portal<sup>5</sup> (with the exception of three websites that had a link to *gov.mt*).
  - A printer friendly version of pages that are likely to be printed.

## Recommendations

The NAO recommends that the LGD invites all local councils to standardise their website addresses. Furthermore, the division should oblige local councils to comply with the Government's '*Website Content and Presentation Standard*'.

Moreover, the NAO suggests that the LGD commissions an audit of the current local council websites and those which are not compliant with the above standard should no longer be listed in the '*MyLocality*' page on the Division's website.

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<sup>4</sup> [https://www.mta.gov.mt/MediaCenter/PDFs/1\\_GMICT\\_P\\_0051\\_Website\\_v1.0.pdf](https://www.mta.gov.mt/MediaCenter/PDFs/1_GMICT_P_0051_Website_v1.0.pdf)

<sup>5</sup> <http://www.gov.mt>

### 3.7 Local Government Division Website

As part of this audit, the NAO reviewed the LGD website<sup>6</sup> and noted that:

- The Ministry's contact information, Mission Statement, Portfolio, Organisation Structure, Freedom of Information and Contact Details are all blank.
- The Cultural Activities Scheme page is blank.
- The Useful links tab contains broken links for the LCA, The Local Council Portal and Committee of the Regions.
- The Local Councils Financial Statistics are dated December 2017 and March 2018.
- The Financial Allocation page was not updated since 2018.
- The Annual Reports page is showing the 2014 report as the most recent one.
- The Freedom of Information page results in a broken link.

### Recommendations

The NAO recommends that the LGD rectifies the above-mentioned shortcomings and engages in a study to evaluate the user friendliness of its website amongst its target audience.

The NAO suggests that the Division entrusts an official to update the web content.

### 3.8 Social Media

Modern technology has changed the face of external communications and social media and nowadays, it has become a cost-effective means of providing real-time information and a valued resource in reaching the general public. Despite the fact that such interactive technology may expose local councils to public backlash or negative comment posting, it is undeniable that the benefits outweigh the risks by far. Indeed, such technology allows the local councils to communicate effectively and to engage with citizens and other stakeholders.

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<sup>6</sup> <https://localgovernment.gov.mt>

The NAO recognises the fact that the LGD has embraced social media and issued a Directive (4/2016) to all local councils to guide them as to how they should use social media to enhance virtual communication and interaction with citizens. This Directive was not addressed solely to the administration staff of the local councils, but also to all the mayors and councillors, so that they could be directed on the best use of social media in local councils to protect the public interest, whilst maintaining the professional image of the local councils.

Through this Directive, the Division made it clear that the use of social media was not mandatory but strongly encouraged. The Division also issued a list of rules that local councils would need to abide with should they decide to open social media accounts/pages. The Division retained the right to instruct local councils to close their social media pages should these rules not be observed. The LGD also issued a circular, which included a lists of rules that local councils need to abide with should they decide to open social media pages.

In this audit, the NAO verified a sample of such pages and noted that:

- Links to the local councils Facebook pages were uploaded in the '*MyLocality*' section of the LGD website without being vetted. The NAO observed that one particular local council had a link to the Facebook page of its drama group.
- Some councillors were using unofficial local council pages to post their messages.
- Some local councils had group pages and not open public profile pages.
- The official name of 23 Facebook pages (out of a sample of 42 that were vetted by this office) was not in English as per the Division's Directive.
- The profile picture of some pages did not represent the emblem of the local council.

## Recommendations

The NAO recommends that the LGD conducts an audit to verify that social media pages of local councils follow the above stated rules as per its Directive. Furthermore, the NAO suggests that the Division appoints a person in charge of monitoring local council social media pages. Pages that do not comply by the Directive issued by the LGD should not be listed in the '*MyLocality*' section of the Division website.

### 3.9 Live Streaming

As per Article 44 of the Local Government Act, all local council meetings should be streamed live on the Internet. The NAO noted that the LGD issued a scheme through which local councils could apply for funds to improve their Internet connection and implement live streaming.

As part of this audit, the NAO verified whether the local councils are providing live streaming of local council meetings.

As depicted in Figure 1, the NAO noted that all local councils have implemented this facility, however:

- 12 local councils have a non-functioning live streaming system.
- Nine local councils have live cameras always on, which show the daily on-goings within the meeting room.
- One local council had one of its cameras pointing to a wrong angle.
- 46 local councils did not publish the next meeting date and thus made it very difficult for the citizen to follow live streams.
- Some recordings were inaudible.



Figure 1: Live Streaming

## Recommendations

The NAO suggests that the LGD appoints a person to audit this live streaming facility to ensure that the:

- Local councils are publishing the date of their next council meeting.
- Live streaming cameras are not left on when there are no council meetings.
- Quality of these live streams is adequate.

### 3.10 On-Demand

By virtue of Article 44 of the Local Government Act, all local council meetings should be kept on-demand on the Internet in an audio-visual form. The NAO verified whether local councils have implemented an on-demand facility for recording council meetings and the quality of such recordings.

The NAO noted that only 13 (out of 68) local councils have implemented the on-demand facility. However, in most cases, the sound was not clear or the image was static. The NAO observed that only two local councils had a good on-demand facility.

## Recommendations

The NAO commends the 13 local councils, which implemented the on-demand facility and made recordings of local council meetings available to the public. This initiative promotes transparency and increases the trust of the general public.

The NAO suggests that the LGD entrusts a technical person to audit the quality of these recordings, from time to time, so as to make sure that such recordings are of good quality.

The NAO recommends that the LGD briefs the councillors about the importance of audible recordings and thus encourages them to be cautious of the fact, that for these recordings to be useful, all participants need to be heard and there cannot be simultaneous discussions between councillors as these would make the recordings undecipherable.

Furthermore, the NAO suggests that the most recent recording should be shown first on the list.

### **3.11 On-Line Payments**

The NAO noted that two of the local councils visited, procured a system for online payments. The NAO observed that the other local councils were still issuing cheques manually.

#### **Recommendations**

The NAO suggests that the LGD, in consultation with LCA and ANSEK, reviews this system and consider introducing online payments in all local councils.

# Chapter 4

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## IT Operations and Security

This chapter analyses the IT set up in local councils in terms of network infrastructure, printing facilities and the use of portable storage devices. Furthermore, this chapter evaluates the manner in which these entities maintain the confidentiality, integrity and availability of their data.

### 4.1 Anti-Virus Software

Malware can attack any IT system and apart from exposing the entity to malicious code, it could also seriously damage the confidentiality, integrity and availability of data and the technologies on which it is hosted.

As part of this audit, the NAO enquired about the anti-virus software being used. The NAO also checked a number of PCs for the presence of anti-virus software with the latest virus definitions, during each visit. The NAO noted that a number of Executive Secretaries lacked sufficient awareness about the importance of having a sound anti-virus software. The NAO also observed that most of the local councils visited use the PCs as purchased. Given that these PCs did not use Windows 10 as their operating system (which has in-built anti-virus protection), these machines would require a separate anti-virus software installation. The NAO noted that in one local council there were different anti-virus software installed on its computers. From the visits conducted, the NAO noted that the local councils had at least five different types of anti-virus software installed.

### Recommendations

The NAO recommends that the LGD helps the local councils ensure that an adequate anti-virus protection is installed on all the computers that are still running operating systems issued prior to Windows 10.

The NAO further suggests that the LGD, in consultation with the LCA and ANSEK, assess whether choosing a single adequate anti-virus and purchasing licences in bulk for all local councils would be more cost-effective than having each council procuring its own anti-virus software.

## 4.2 Backups and Off-Site Storage

A sound backup plan is critical for restoring systems or applications after a disruptive event. During this audit, the NAO examined whether data was being backed up, whether such backups were scheduled or run on an ad-hoc basis, the backup approach adopted, and the media used for such backups.

As depicted in Figure 2, the NAO noted that out of the 15 local councils reviewed:

- Only three local councils had automated daily backups of the data stored on their server.
- Two local councils had automated daily backups of the data stored on the Executive Secretary's PC, but no backups were taken for the data stored on the other PCs.
- One local council had automated weekly backups of the Executive Secretary's PC made to its local server.
- One local council had ad-hoc backups on a mirrored hard-drive.
- Three local councils had ad-hoc backups on external hard-drives with one of these councils stating that the backup was done every two to four weeks.
- Two local councils had ad-hoc backups of particular files on a pen-drive that was kept by the Executive Secretary.
- One local council was completely unaware of whether backups were being taken.
- Two local councils were aware that no backups were being done.

The NAO observed that one local council stored automated backups utilising cloud storage services. However, in this case, the local council was not aware as to whether the data on the cloud was hosted within the EU or not. Similarly, the Executive Secretary of another local council stated that she had a personal cloud storage service plan (which she personally procures) and sometimes utilises this cloud service to backup certain important files. She stated that through this facility, she was able to work from home when needed. The NAO is aware that in this case, this particular cloud service provider hosts its personal plan users' data in the United States and has thus made the Executive Secretary aware that this may be in breach of the Data Protection Act.

The NAO also noted that one local council had a separate server for backups and another local council was storing its backup on the same PC from which it was taken, i.e. rendering the backup useless should something happen to the hard-drive. The other local councils took backups on external hard-drives, with some Executive Secretaries carrying such hard-drives home.

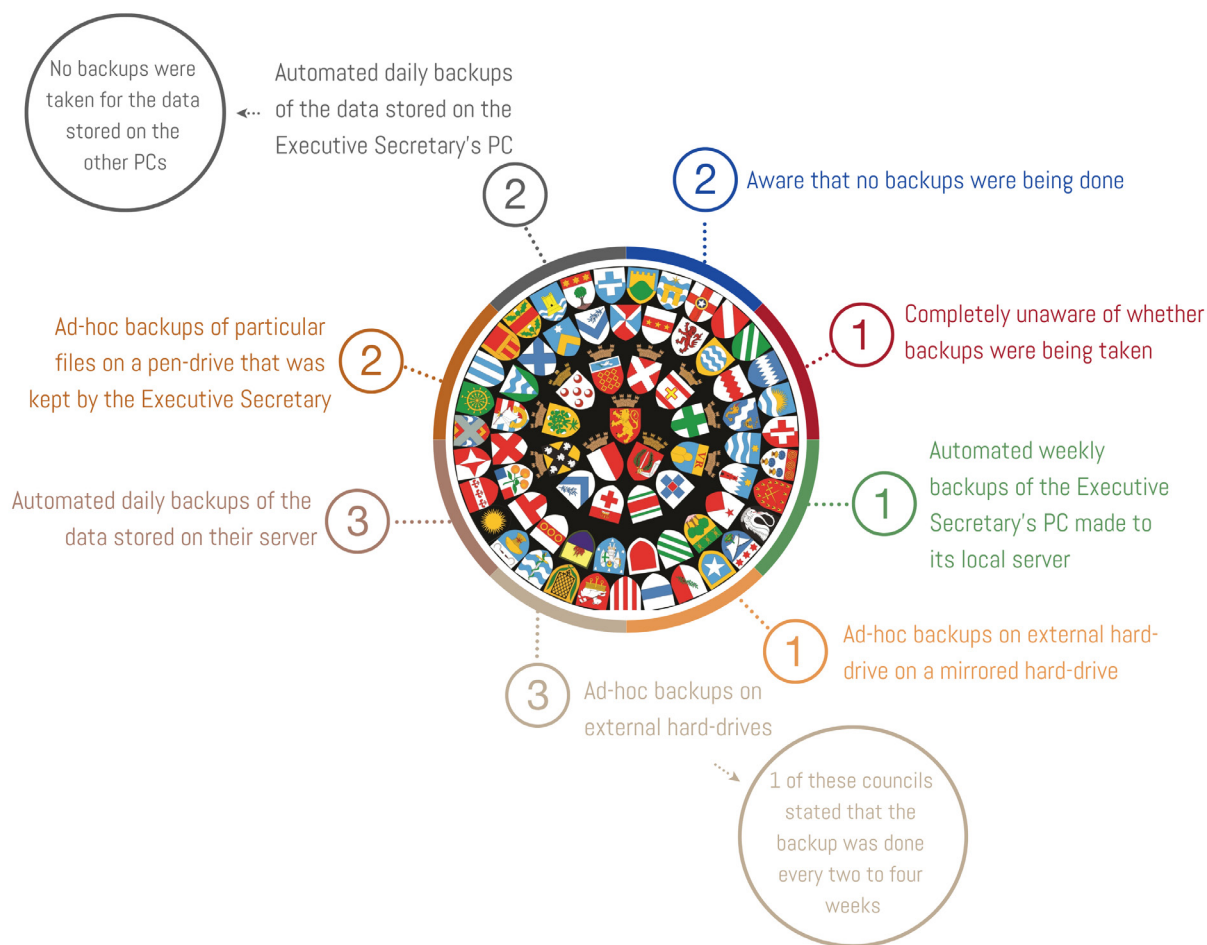


Figure 2: Backups and Off-Site Storage

The NAO understands that Executive Secretaries may not have the necessary expertise to acknowledge the importance of having a well-managed, automated full backup of local council's data. The NAO was also informed that often, convincing the mayor or the local councillors to invest in a sound backup solution was difficult, especially in small local councils where funds were limited, and many competing priorities prevailed.

Nevertheless, the NAO acknowledges that taking automated backups of all the data on the local councils' PCs is impractical in local councils where the PCs are not part of a LAN (see Section 4.8) and there is no central repository of data on a server.

### Recommendations

The NAO recommends that the LGD organises appropriate training to inform all Executive Secretaries about the importance of having a sound backup plan. Furthermore, the NAO recommends that this Division helps the local councils ensure that adequate, automated daily backups of all data on the councils' PCs are taken. Such backups should be hosted as per the Data Protection Act, and periodic restores of such data should be performed.

Moreover, the NAO opines that a sound off-site storage facility of backups should be set up for all local councils.

### 4.3 Recovery of Data

Backup data is of no use if data cannot be restored from it. It is thus important for local councils to test their backups periodically to ensure data availability and integrity.

During the audit, the NAO enquired whether backups were being tested, and if so, in which way was this being done and how often. The NAO also enquired as to whether the local councils audited have ever restored data from a backup and the date when the last restore was carried out.

The NAO noted that three out of the 15 local councils visited, had tested their backups on ad-hoc basis. The NAO, however, was not provided with any evidence documenting such testing and thus could not ascertain whether such tests were actually carried out.

The NAO observed that other local councils were indirectly restoring partial backup data when files were taken home by Executive Secretaries on portable storage media (used for backup) and then accessed from home.

### Recommendations

The NAO recommends that all backups are to be fully restored at least once a year and such testing is documented with a screenshot showing that the data was successfully restored from backups. The NAO suggest that the LGD monitors the local councils from time-to-time to ensure that this was being done.

### 4.4 Use of Portable Smart Media and Storage Devices

Smart media portable devices, that can transfer data through a wired or wireless connection, give users the convenience to access both work-related data and personal data whilst on-the-go. The NAO is conscious of the fact that the use of such devices has increased drastically in recent years and is concerned about the associated risks that these devices bring upon Government entities.

The portability of such devices and the smart features that enable an on-the-go connection to various networks and hosts brings about a higher risk of:

- Data loss (when a device is physically lost).
- Data exposure (when personal, sensitive or commercial data is exposed to third-parties without any authorisation or consent).
- Surreptitiously infecting other PCs and networks due to the lack of anti-virus software and inherently poor security tools installed on such devices.
- Network-based attacks to any system the portable device is connected to or is authorised to connect to.

During this IT audit, the NAO enquired about the use of such devices in the local councils visited. The NAO noted that personal (i.e. employee or councillor-owned) portable devices can be used in all the local councils visited, to access Internet and e-mail through segregated Wi-Fi connections. The NAO observed that such devices were not allowed to access the internal networks. However, one should note that personal, sensitive and commercial data is also shared through e-mail, and thus accessing the e-mail through such devices automatically poses a risk to the local councils owning that data. Given the lack of suitable network infrastructure in most local councils, data is shared through e-mail and thus the latter risks are quite high when considering that e-mail boxes are likely to be accessed through one's mobile phone, especially by local councillors.

## Recommendations

The NAO recommends that the LGD:

- Informs all local council employees, mayors and councillors about the risks associated with using such devices and develops security and acceptable-use policies for all portable devices.
- Encourages local councils to take all the necessary precautions to protect themselves against the theft of portable devices, particularly by pointing out typical scenarios where devices are left unattended in a vehicle or put in checked luggage when travelling abroad.
- Encourages local councils to report any missing devices immediately, both those owned by the council as well as personal devices which may contain the council's data.
- Discourages the connection of any devices to the local council's network (where the latter is available).
- Helps the local councils implement a secure VPN connection as and when needed.
- Encourages all local council employees, mayors and councillors to take regular backups of the data stored on such devices.
- Encourages all local council employees, mayors and councillors to protect their devices using a strong password or PIN which is changed periodically.
- Educates all local council employees, mayors and councillors so as not to allow their devices to be used by other people, including members of their immediate family.
- Encourages all local council employees, mayors and councillors to install anti-malware software on such devices and carry out regular scans.
- Mentions the possibility of installing a local firewall on such devices, to filter inbound and outbound traffic, and block malicious code.

- Encourages the possibility of enabling a remote-wiping feature, to erase all data on the device if it is lost or misplaced.

Although the NAO is aware that such devices are nowadays considered necessary tools, more so in the case of local councils, where data is circulated to councillors through e-mail, this Office encourages the implementation of the best practices outlined above, so as to mitigate, as much as possible, the risks associated with the use of such technologies.

#### 4.5 Electronic Mail

E-mail services are considered as mission critical services in any organisation, for the exchange of information and business decision-making. The NAO noted that in the case of local councils, e-mail is being relied upon to a much higher extent than normal, due to the lack of computer networks within the local council offices and due to the fact that information is often circulated to the Mayor and the local councillors by e-mail for evaluation and decision-making purposes.

The local councils e-mail services are provided by the Malta Information Technology Agency (MITA). All local councils have access to both MITA personal e-mail accounts and MITA generic e-mail accounts, which are generally related to customer care. The NAO, however, does not exclude instances where the Government e-mail is not being used and other private e-mail accounts are used instead. The NAO noted that some local councils had an issue with their mailbox size or issues of being unable to connect to the Government e-mail.

The NAO also noted that although the Government e-mail is subjected to the '*Electronic Mail and Internet Services Directive*' that was issued by the former Central Information Management unit (CIMU) in 2003, the local council employees and councillors were not aware of this Directive that stipulates that the e-mail service is provided for official business use only and is deemed the property of the respective Government entity. Thus, an e-mail, including attachments, that is created, sent, received or printed via the Government e-mail service, becomes the property of the local council. Moreover, the personal use of e-mail is allowed only in exceptional cases, and provided that this does not interfere with the performance of the account holder's duties or those of other account holders.

During the audit visits carried out, the NAO became increasingly worried about the e-mail security and suspected that some e-mail passwords were being disclosed to other officials within the local council. Furthermore, the NAO observed that offline mailboxes of personal or generic e-mail accounts were stored locally on the end users' PC or laptop hard-disk.

## Recommendations

The NAO recommends that:

- E-mail should not be used as a substitution of an adequate setup of networked computers within the local council offices.
- The LGD periodically reminds all e-mail users about the salient points highlighted in the *'Electronic Mail and Internet Services Directive'* as reproduced in Annex C.
- The local councils take all the necessary measures to ensure that Government e-mail passwords are not shared.
- The use of non-Government e-mail for local council purposes is prohibited. Local council employees should not circulate local council information to the mayor and councillors via non-Government e-mail.
- Mailboxes are maintained, and should a mailbox size be an issue, the local council should discuss this with the LGD and MITA so that this matter is solved.
- The LGD should provide guidelines to all end users on how to backup and securely store offline mailboxes.

### 4.6 Internet Services

During this audit, the NAO noted that the local councils procure Internet services directly from the service providers. During the visits carried out, the NAO attempted to establish whether there were any criteria that determined the number of Internet accounts required by the particular council and the type of accounts required. The NAO noted that all local councils had multiple Internet connections. The reason behind these multiple connections often relied upon third-party opinions from different IT suppliers. During one particular visit to a local council, the NAO observed five different modems and upon enquiry, the NAO was informed that this council had five different Internet connections. The reason behind these different Internet connections was unclear as the Executive Secretary explained that this setup was installed prior her employment.

The NAO noted that local councils ended up with redundant Internet equipment as the suppliers did not tend to take such equipment back when it was no longer in use. This redundant equipment was adding up the clutter in the often very unmanaged network cabinets.

## Recommendations

The NAO recommends that:

- The LGD monitors the number of Internet connections in all local councils and helps local councils determine whether such connections are still necessary and adequate to their needs.
- The LGD, in consultation with LCA and ANSEK, considers whether it would be more feasible to procure such Internet services from one supplier and maybe discuss the possibility of using the Government network for Internet services in local councils.
- Local councils ensure that redundant equipment (such as modems) is removed by authorised IT staff, to clear network cabinets from unnecessary clutter.
- A policy is drawn up and circulated amongst all local councils regulating the use of Internet services and holding the officials accountable for their Internet activity.

### 4.7 Multi-Function Printers

During the audit, the NAO reviewed the printing facilities available in each local council visited. The NAO noted that:

- All local councils visited, except for one, had a leasing agreement for one or more multi-function printers. The NAO noted that some local councils had multiple leased printers, and some were leased through different suppliers.
- Most of the local councils (11 out of 15) were using printers, which although networkable, were not connected to multiple PCs. This was often due to lack of network infrastructure within the local council offices. This situation led to the need of multiple printers with users having their own printer or having to save documents on a pen drive and using another PC to print such documents.
- Some of the printers were located in areas frequented by the public.

## Recommendations

The NAO recommends that:

- Local councils network all their ICT equipment and ensure that printing is available from any PC.

- Local councils re-examine their printing needs, with the aim of reducing the number of printers procured/used, and minimising the cost of printer consumables, servicing, etc.
- The LGD, in consultation with LCA and ANSEK, considers the feasibility of leased multi-function printers from one supplier, in order to gain economies of scale and be able to ensure that the type of printers being leased are adequate for the use of local councils.
- All multi-function printers be configured, so as to enable features such as scan to e-mail and secure printing.
- Printers are removed from corridors and placed in areas that are not accessible by the general public, keeping in mind the restrictions of some local council offices.

## 4.8 Network Infrastructure

A network infrastructure is an interconnected group of hardware and software resources that enable communication, operations and the management of an enterprise network. A typical network infrastructure is composed of routers, cables, wired/wireless access points, switches, etc.

The network infrastructure can thus be considered as the communication path between PCs, users, processes, software applications, services and external networks.

During this audit, the NAO sought to obtain a general idea of the type of network infrastructure that is available within the local council offices. It was disappointing that only four of the 15 local councils visited had a functioning network of PCs. The NAO noted that most of the Executive Secretaries lacked sufficient awareness on how their IT equipment was set up. On a number of these visits, the NAO was informed that there was a server on site only to discover at a later stage that the council employees were referring to Internet modems as servers. Furthermore, the NAO observed that files were being sent by e-mail from one computer to another, with version control of some files being very hard to ascertain. The NAO noted that council employees chose which computer to use depending on the file that needed to be accessed.

### Recommendations

The NAO believes that the setting up of adequate network infrastructure in all local council offices is imperative and is to be carried out with immediate effect. The NAO understands that certain local councils lack the necessary expertise and knowledge to carry out or co-ordinate such a project. Furthermore, the NAO is aware that funding this project may indeed be an issue for small local councils or for local councils where other perceived competing priorities prevail.

The NAO recommends that the LGD helps all local councils in this regard, by either setting up appropriate LANs in all offices or oversee and manage the setting up of such LANs by third-parties.

Furthermore, the LGD should ensure that:

- All PCs, printers, scanners, etc are networked.
- All user PCs are set up with a login and a password.
- Local council data is stored centrally in the LAN and discourage users from saving data on their desktops by educating them as to why this should not be done.
- An appropriate backup structure is set up.
- Network cabinets are decluttered from unnecessary redundant wiring.
- Servers (where available) are installed in an adequate secure place.

The NAO noted that a connection to the Government network (MAGNET) is available in all local councils and thus the NAO recommends that the LGD, the LCA, ANSEK and MITA discuss the possibility of having all local councils on a domain-based structure and connected to MAGNET.

# Chapter 5

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## Management Comments

This audit report was discussed with the LGD and sent to the Executive Secretaries of all local councils. A recommendation implementation schedule (as represented in Section 5.1 below), indicating the dates by which the recommendations detailed in each chapter are to be implemented, was drawn up in consultation with the LGD and sent to all Executive Secretaries. The following comments were submitted by way of management comments from the participating entities.

### Preamble

The Local Government Division (LGD) has taken note of the NAO Report on the ICT within local councils and evaluated the report, including the recommendations made therein. We are hereby giving our comments and action plan to address the weaknesses identified in the said report. The LGD would like to point out that in the past the ICT within local councils used to be centrally managed by MITA. During this period, the local councils used to follow the ICT standards and best practices applicable then. However, some years back a decision was taken to enable local councils to self-manage their own ICT infrastructure on the premise that local councils should be self-sufficient. Unfortunately, the results of this ICT Audit clearly show that this decision led to the state in which the ICT in local councils is today and that the local councils require assistance on a macro level to manage their ICT.

### Proposed Plan of Action

Having gone through all the recommendations made by the NAO in detail, the LGD is proposing a plan of action that is fully in-line with the results of this ICT Audit with the intent of bridging all the outlined gaps and ensure that the ICT infrastructure within local councils is sufficiently updated to enable the local councils to not only be compliant with the latest ICT standards and best-practices but to also be prepared for future technological growth and enhancements.

The plan of action proposed by the LGD is based on the following key pillars as indicated in the audit report:

#### 1. Formulation of an ICT Strategy

The LGD recognises the importance of such a strategy and is proposing that following consultation with all stakeholders, such as the LCA and ANSEK, a central ICT strategy is drafted in order to guide local councils to bridge the identified gaps as well as help them plan for future ICT-based projects.

*Limiting Factor:*

In order to devise and implement the ICT strategy for local councils, an IT Unit within the LGD is being proposed. The setting up of this unit is still to be approved both at our ministry level and P&SD level, given that since the finalisation of the NAO report, the LGD IT Unit has now been incorporated within the Ministry's IMU.

## 2. Setting up an IT Unit for Local Government

In order to fully cater for the implementation of the proposed action plan as well as to ensure sustainability of the system and the provision of ongoing support and advice, an IT Unit should be set up under the LGD (which was the case until the last legislature). This would enable the strategy to be fully implemented and updated from time to time as necessary, as well as ensure that standards are laid down and adhered to.

*Limiting Factor:*

As indicated in Action Plan 1, the setting up of this unit is still to be approved both at ministry and P&SD level given that the former LGD IT Unit has now been incorporated within the ministry's IMU.

## 3. Consolidation of the ICT Infrastructure

The LGD recognises that the first step towards preparing the local councils for future technological growth is the consolidation of their ICT infrastructure and backbone. During this phase, network infrastructure will be upgraded and consolidated as required, workstations will be upgraded, and the necessary support agreements will be put in place. Furthermore, the LGD will be embracing the suggestion of appointing an ICT officer within each of the Regional Councils.

*Limiting Factor:*

The LGD will require a number of ICT personnel in order to successfully manage the execution of this plan. As indicated above, the setting up of this unit is still to be approved given that the former LGD IT Unit has now been incorporated within the Ministry's IMU.

#### 4. Software used within local councils

Having all local councils make use of common software and ICT services brings with it numerous benefits, including reduction in costs and the enabling of information sharing between the local councils and the LGD.

##### *Limiting Factor:*

The execution of this plan requires a significant capital expenditure that cannot be covered by LGD's existing budget. An 'ad hoc' budget is required to be managed by the IT Unit. Thus, the implementation of this action plan requires MFIN's approval to grant a specific ICT vote to the LGD.

#### 5. Enabling Economies of Scale

The current lack of coordination between the local councils, wherein each of the 68 local councils carries out its own procurement is resulting in lack of capitalisation of economies of scale. The LGD is proposing that following consultation with the stakeholders, the LGD will act as a central point of coordination to enable bulk purchasing of equipment, such as the introduction of a purchasing Framework Agreement.

##### *Limiting Factor:*

The implementation of this action plan is dependent on the setting up of an IT Unit within the LGD, which unit will also be responsible for ICT procurement, storage and other support.

## Conclusion

It is pertinent to state that the redress to the current ICT situation within local councils is the sole responsibility of local councils in line with the principle of local autonomy (which principle is sanctioned both in the Constitution of Malta and the Local Government Act) as well as in line with Malta's commitment when ratifying the European Charter of Local Self-Government of the Council of Europe.

However, in light of the remit of the LGD to provide the necessary support and assistance to Local Government in order to carry out their function in an efficient and effective manner, the LGD is prepared to extend its collaboration in order to address the deficiencies identified in the report in a holistic manner, including that of formulating an IT strategy as well as providing the necessary support both at an advisory level, as well as, with respect to the provision of hardware, software and maintenance of a consolidated IT structure.

It is to be emphasised that the realisation of the action plan, however, is highly dependent on the limiting factors identified above, in particular: the provision of an IT vote under the management of the LGD and the re-establishment of an IT Unit within the LGD. Should these two limiting factors persist, the recommended alternative solution is to tackle the IT weaknesses identified in the NAO report at a regional level in line with their new responsibilities to assist local councils on a professional level as per guidelines issued by the LGD.

Natalino Attard  
Director General (Local Government)

24 February 2020

## 5.1 Recommendations Implementation Schedule

Components	2020				2021			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Chapter 2</b>								
IT Unit								
ICT Strategy								
ICT Budget								
IT Support in Local Councils								
Procurement of Hardware								
Procurement of Software								
Hardware Disposal								
IT Training								
Use of EPOS machines								
<b>Chapter 3</b>								
Intranet								
Accounts (Sage)								
Payroll								
ORNIT								
Tracking of Customer Complaints and Incoming Mail								
Local Councils Websites								
Local Government Division Website								
Social Media								
Live Streaming								
On-Demand								
On-Line Payments								
<b>Chapter 4</b>								
Anti-Virus Software								
Backups and Off-Site Storage								
Recovery of Data								
Use of Portable Smart Media and Storage Devices								
Electronic Mail								
Internet Services								
Multi-Function Printers								
Network Infrastructure								

# Annex A: Local Government Division Organogram

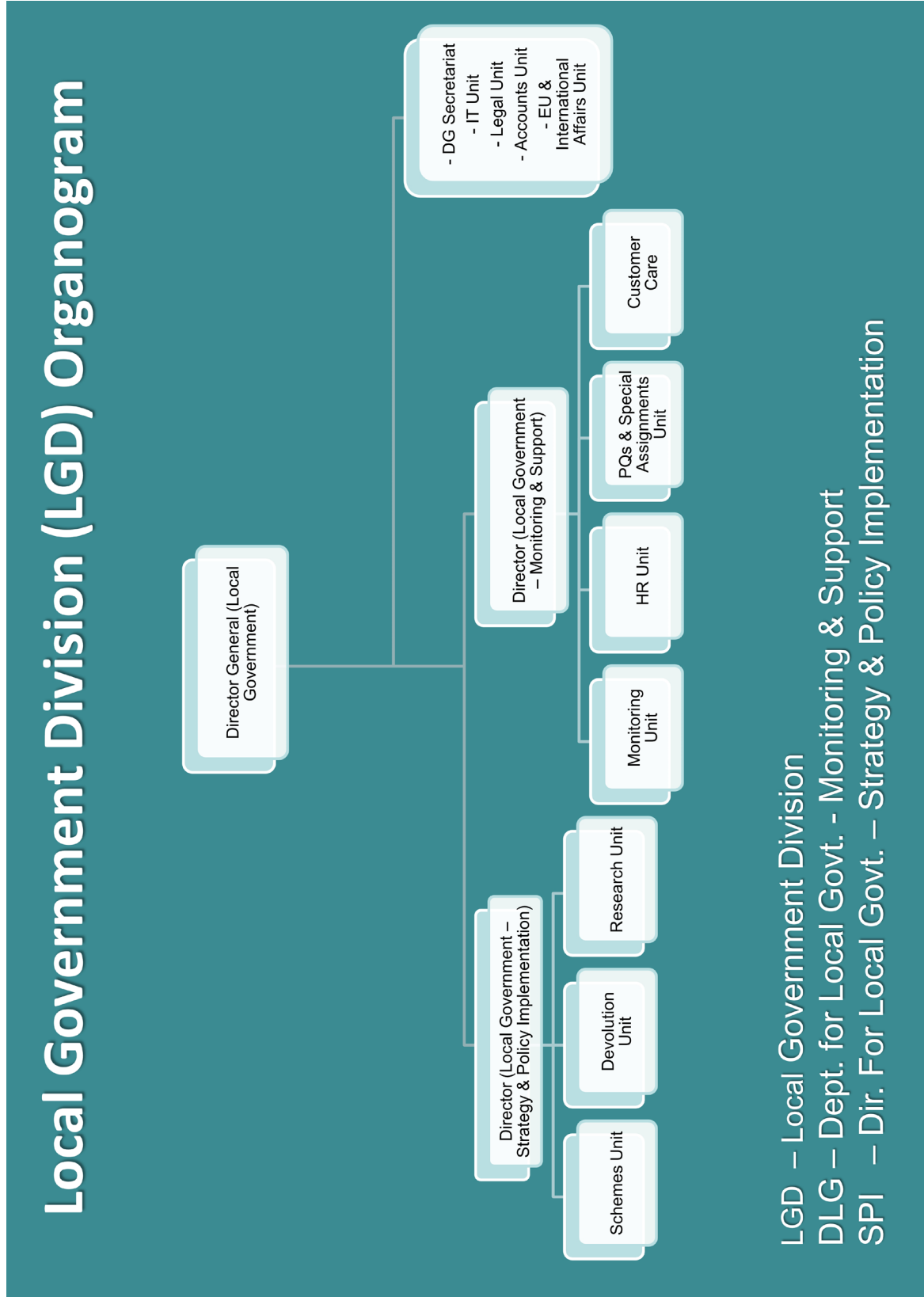


Figure 3: Local Government Division Organogram

## Annex B: CoBit Controls

CoBit defines IT activities in a generic process model within four domains<sup>7</sup>. These domains are Plan and Organise, Acquire and Implement, Deliver and Support, and Monitor and Evaluate as depicted in Figure 4. The domains map to IT’s traditional responsibility areas of plan, build, run and monitor.

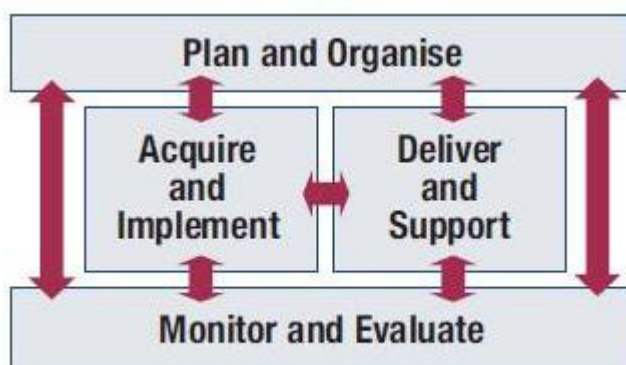


Figure 4: The four integrated domains of CoBit

### Plan and Organise

This domain covers strategy and tactics, and concerns the identification of the way IT can best contribute to the achievement of the business objectives.

#### Define a Strategic IT Plan

IT strategic planning is required to manage and direct all IT resources in line with the business strategy and priorities. The IT function and business stakeholders are responsible for ensuring that optimal value is realised from project and service portfolios. The strategic plan improves key stakeholders’ understanding of IT opportunities and limitations, assesses current performance, identifies capacity and HR requirements, and clarifies the level of investment required. The business strategy and priorities are to be reflected in portfolios and executed by the IT tactical plan(s), which specifies concise objectives, action plans and tasks that are understood and accepted by both business and IT.

<sup>7</sup> CoBit 4.1 Framework - <http://www.isaca.org/Knowledge-Center/cobit/Documents/CoBit4.pdf>

### Assess and Manage IT Risks

A risk management framework is created and maintained. The framework documents a common and agreed-upon level of IT risks, mitigation strategies and residual risks. Any potential impact on the goals of the organisation, caused by an unplanned event, is identified, analysed and assessed. Risk mitigation strategies are adopted to minimise residual risk to an accepted level. The result of the assessment is understandable to the stakeholders and expressed in financial terms, to enable stakeholders to align risk to an acceptable level of tolerance.

### Acquire and Implement

To realise the IT strategy, IT solutions need to be identified, developed or acquired, as well as implemented and integrated into the business process.

### Manage Changes

All changes, including emergency maintenance and patches, relating to infrastructure and applications within the production environment, are formally managed in a controlled manner. Changes (including those to procedures, processes, system and service parameters) are logged, assessed and authorised prior to implementation and reviewed against planned outcomes following implementation. This assures mitigation of the risks of negatively impacting the stability or integrity of the production environment.

### Install and Accredite Solutions and Changes

New systems need to be made operational once development is complete. This requires proper testing in a dedicated environment with relevant test data, definition of rollout and migration instructions, release planning and actual promotion to production, and a post-implementation review. This assures that operational systems are in line with the agreed-upon expectations and outcomes.

## Deliver and Support

This domain is concerned with the actual delivery of required services, which includes service delivery, management of security and continuity, service support for users, and management of data and operational facilities.

### Define and Manage Service Levels

Effective communication between IT management and business customers regarding services required is enabled by a documented definition of, and agreement on, IT services and service levels. This process also includes monitoring and timely reporting to stakeholders on the accomplishment of service levels, and enables alignment between IT services and the related business requirements.

### Manage Third-party Services

The need to assure that services provided by third-parties, (suppliers, vendors and partners) meet business requirements requires an effective third-party management process. This process is accomplished by clearly defining the roles, responsibilities and expectations in third-party agreements, as well as reviewing and monitoring such agreements for effectiveness and compliance. Effective management of third-party services minimises the business risk associated with non-performing suppliers.

### Ensure Continuous Service

The need for providing continuous IT services requires developing, maintaining and testing IT continuity plans, utilising offsite back-up storage and providing periodic continuity plan training. An effective continuous service process minimises the probability and impact of a major IT service interruption on key business functions and processes.

### Ensure Systems Security

The need to maintain the integrity of information and protect IT assets requires a security management process. This process includes establishing and maintaining IT security roles and responsibilities, policies, standards, and procedures. Security management also includes performing security monitoring and periodic testing, and implementing corrective actions for identified security weaknesses or incidents. Effective security management protects all IT assets to minimise the business impact of security vulnerabilities and incidents.

### Manage the Physical Environment

Protection for computer equipment and personnel requires well-designed and well-managed physical facilities. The process of managing the physical environment includes defining the physical site requirements, selecting appropriate facilities, and designing effective processes for monitoring environmental factors and managing physical access. Effective management of the physical environment reduces business interruptions from damage to computer equipment and personnel.

### Manage Operations

Complete and accurate processing of data requires effective management of data processing procedures and diligent maintenance of hardware. This process includes defining operating policies and procedures for effective management of scheduled processing, protecting sensitive output, monitoring infrastructure performance and ensuring preventive maintenance of hardware. An effective operation management helps maintain data integrity and reduces business delays and IT operating costs.

### Monitor and Evaluate

All IT processes need to be regularly assessed over time for their quality and compliance with control requirements.

### Provide IT Governance

Establishing an effective governance framework includes defining organisational structures, processes, leadership, roles and responsibilities to ensure that enterprise IT investments are aligned and delivered, in accordance with enterprise strategies and objectives.

## Annex C: Restrictions on the use of e-mail services

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Every user should abide by the restrictions on use of e-mail<sup>8</sup> and should not:

- Impersonate or forge the signature of any other person when using e-mail.
- Amend messages received in a fraudulent manner.
- Gain access to, examine, copy or delete another person's e-mail without the necessary authorisation from the person concerned.
- Use another user's password or other means of access to a computer.
- Use e-mail to harass or defame any person or group of persons.
- Use e-mail to conduct any personal business or for commercial or promotional purposes.
- Send as messages or attachments items that may be considered offensive, including pornography, illegal material, chain letters, or junk mail.
- Send e-mail in bulk unless it is formally solicited.
- Place Government-assigned e-mail address on non-official business cards.
- Send trivial messages or copy messages to people who do not need to see them.
- Use the service of another provider, but channelling activities through a MAGNET account as a re-mailer, or use a MAGNET account as a mail drop for responses.

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<sup>8</sup> As per the 'Electronic Mail and Internet Services Directive' that was issued by the former Central Information Management unit (CIMU) in 2003

## Annex D: Privacy Policy

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The below is an extract from the Government's '*Website Content and Presentation Standard*' GMICT S 0051-1:2011<sup>9</sup> which may be used as guidance.

### Privacy Policy

The website shall include a Privacy Policy statement stating:

- That any personal information collected shall be stored or processed in accordance with the Data Protection Act.
- That any personal information submitted by Website users in a query will only be used to respond to that particular query.
- Whether any non-personal information will be collected and if so, which information and the purpose of its usage.
- The information on any cookies used, including why they are being used and what information is being recorded or relayed.
- The rights of the data subjects as per the Data Protection Act.

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<sup>9</sup> [https://www.mita.gov.mt/MediaCenter/PDFs/1\\_GMICT\\_P\\_0051\\_Website\\_v1.0.pdf](https://www.mita.gov.mt/MediaCenter/PDFs/1_GMICT_P_0051_Website_v1.0.pdf)

## Annex E: Accessibility Statement

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The below is an extract from the Government's '*Website Content and Presentation Standard*' GMICT S 0051-1:2011 which may be used as guidance.

### Accessibility Statement

The website shall carry an accessibility statement which declares that the website caters for individuals with disabilities.

Statement shall read as follows: '*Every effort has been made to ensure that this website is accessible to persons with disability. If you have any difficulty accessing information on this website please contact us and we will do our best to assist you.*'

## 2019 - 2020 (to date) Reports issued by NAO

### NAO Work and Activities Report

April 2019 Annual Report & Financial Statements 2018 - Works and Activities

### NAO Audit Reports

January 2019 An Investigation of Visas issued by the Maltese Consulate in Algiers

March 2019 Performance Audit: A Review on the Contract for Mount Carmel Hospital's Outsourced Clerical Services

June 2019 Joint Audit: An Evaluation of the Community Work Scheme

July 2019 Cooperative Audit: Are adequate mechanisms in place for the designation and effective management of Marine Protected Areas (MPAs) within the Mediterranean Sea?

October 2019 Information Technology Audit: The Effective use of Tablets in State, Church and Independent Primary Schools

October 2019 Follow-Up Reports by the National Audit Office 2019

November 2019 Report by the Auditor General on the Workings of Local Government 2018

November 2019 Performance Audit: An analysis of issues concerning the Cooperative Movement in Malta

December 2019 Report by the Auditor General on the Public Accounts 2018

December 2019 An investigation of contracts awarded by the Ministry for Home Affairs and National Security to Infinite Fusion Technologies Ltd

January 2020 Performance Audit: Community Care for Older Persons

February 2020 Performance Audit: Assessing the Public Transport Contract and Transport Malta's visibility on the service