Emakhazeni Local Municipality

ICT Strategy Plan

2016-2019

It is vitally important that the information Communication Technology (ICT) development and progress in Emakhazeni Local Municipality maintains be kept in pace with external and worldwide IT development. Technology is no longer a luxury but a necessity for communication with the world. The full utilization of IT will not only put the local authority on the fine edge of improvement but will increase service delivery enhancement. This will include spin-offs to the community at large. With good communication it will grow the confidence of the municipality within the community, leading to Good Governance in administration

Contents

Abbreviations

COBIT	**C**ontrol **Ob**jectives for **I**nformation and Related **T**echnologies
ELM	**E**makhazeni **L**ocal **M**unicipality
ICT	**I**nformation **C**ommunication **T**echnology
IDP	**I**ntegrated **D**evelopment **P**lanning
IT	**I**nformation **T**echnology
LAN	**L**ocal **A**rea **N**etwork
MANCO	**Man**agement **Co**mmittee
SWOT	**S**trengths and **W**eaknesses **O**pportunities **T**hreats
VoIP	**V**oice **o**ver **I**nternet **P**rotocol
VPN	**V**irtual **P**rivate **N**etwork
Wi Fi	Wireless Local Area Network

1. INTRODUCTION

The aim of this document is to articulate and describe the Emakhazeni Municipality's ICT strategy with the view to ensure alignment with the Emakhazeni Municipality strategy. Emphasis is placed on identifying the Municipality's requirements and opportunities for Information Communication Technology (ICT) to move towards meeting the ICT related requirements of the Municipality and management.

2. BACKGROUND:

The objectives of the document are to:

1. Align the ICT strategy with the Emakhazeni Municipality strategy
2. Obtain approval of the IT strategy from the Emakhazeni MANCO and Council.
3. Identify with the ICT strategy, and accept ownership for successfully implementing the strategy, and thereby ensuring achievement of the ICT strategic objectives
4. Delivery against the strategy through clear expectations and measurement
5. Identify and manage the ICT risks in order to assist the Municipality meet its strategic and performance objectives
6. Make informed decisions about where the ICT resources and effort should be focused

This ICT strategy has been developed following the guidance of the following publications:

- King III Corporate Governance guidelines
- COBIT 5 IT Governance Framework
- ELM ICT Governance Framework

3. EMAKHAZENI MUNICIPALITY STRATEGY AND OBJECTIVES

The ELM derives its mandate and goals from Section 84 (3) OF THE Municipal Act of 1998 which translates to the following strategic objectives as defined in the ELM's Integrated Development Planning (IDP):

- Adherence to ICT Good Governance, framework & policies are the guide lines to a successful strategy plan.

- To ensure that all systems that are beneficiary to the municipality are up to standard and always functional.

- To ensure that communication is delivered and achieved.

- To ensure that our network is always functional and not misused.

- Quick respond to employees faults.

- To eliminate the cost of PC upgrades and delays caused by hardware failure and "end of life" hardware.

- To improve the standard of external offices.

The successful implementation of the Municipality's IDP and the achievement of the above mentioned objectives are highly dependent on a number of critical enabling resources to be managed effectively to support the IDP, including Finances, Human Resources and Information Technology.

The achievement of the strategic objectives of the ELM's IDP is indirectly dependant on various Information Technology services, without which the core and supporting functions of the ELM will not be able to operate. The vital ICT related services include:

- Provisioning of the Municipal Financial and Payroll Management software applications
- Hosting of the Web-site
- E-mail and internet services
- Provisioning of network, wireless networks and telephony services
- End-user support for the IT environment

4. IT GOVERNANCE

The aim of the following section is to provide an overview of the ELM's:

- IT Governance and Management arrangements, as well as the;
- IT strategy planning cycle

For more information, refer to the ELM IT Governance Document adopted by the Council.

4.1.1. Summary of the IT Governance Principles

Principle 1: Political Mandate	• The Corporate Governance of ICT must enable the municipality's political mandate • The Executive Authority must ensure that the Corporate Governance of ICT achieves the political mandate of the municipality.
Principle 2: Strategic Mandate	• The Corporate Governance of ICT must enable the municipality's strategic mandate • The Accounting Officer must ensure that the Corporate Governance of ICT assists in achieving the municipality's strategic plans.
Principle 3: Corporate Governance of ICT	• The Accounting Officer is responsible for the Corporate Governance of ICT. • The Accounting Officer must create an enabling environment in respect of the Corporate Governance of ICT within the applicable legislative and regulatory landscape and information security context.
Principle 4: ICT Strategic Alignment	• ICT service delivery must be aligned with the strategic goals of the municipality. • The Executive Management must ensure that ICT service delivery is aligned with the municipality's strategic goals and that the municipality accounts for current and future capabilities of ICT. It must ensure that ICT is fit for purpose at the current service levels and quality for both current and future municipal needs.
Principle 5: Significant ICT Expenditure	• The Executive Management must monitor and evaluate significant ICT expenditure. • Executive Management must monitor and evaluate major ICT expenditure, ensure that the ICT expenditure is made for valid municipal business enabling reasons and monitor and manage the benefits, opportunities, costs and risks resulting from this expenditure, while ensuring that information assets are adequately managed.
Principle 6: Risk Management and Assurance	• Executive Management must ensure that ICT risks are managed and that then ICT function is audited. • Executive Management must ensure that ICT risks are managed within the municipal risk management practice. It must also ensure that the ICT function is audited as part of the municipal audit plan.
Principle 7: Organisational Behavior	• Executive Management must ensure that ICT service delivery is sensitive to organizational behavior / culture. • Executive Management must ensure that the use of ICT demonstrates the understanding of and respect for the organisational behaviour / culture.

4.2. IT Governance Responsibilities

Stakeholder	Responsibility
Mayoral Office, Council & Municipal Manages Office	Set high level direction for ICT, monitor results and insist on corrective measures
MANCO	Defines business requirements for ICT & ensures value is delivered & risks are managed
Internal Audit, Risk Management and Corporate Compliance	Provides independent assurance demonstrate that ICT delivers what is needed
ICT Deputy Manager	Responsible to manage ICT in order to delivers and improve ICT services as required by the municipality
ICT Staff	Delivers and improves IT services as required by the business

4.3. IT Steering Committee

The IT Steering Committee is responsible to evaluate the ICT Plan's suitability and performance.

The IT Steering Committee reviews the proposed IT Departmental objectives along with the budget requests. The review process may include adjustments to ensure objectives are relevant, challenging, and achievable. The review process also ensures resources are in the budget to support the objectives.

ICT Management must ensure that departmental objectives are communicated to employees on a need-to-know basis.

The Municipal ICT Steering Committee is to ensure that everyone in the municipality understands the link between business and ICT goals and accepts their responsibilities with respect to the supply and demand for ICT. The Municipal ICT Steering Committee will ensure that:

1. The necessary ethical culture, structures (including outsourcing), policies, procedures, processes, mechanisms and controls regarding all aspects of ICT use (business and ICT) are clearly defined, implemented and enforced;
2. ICT performance are assured through independent audit (Auditor General); and
3. An information security policy is approved;
4. Intellectual property in information systems is appropriately protected; and
5. ICT assets, privacy, security and personal information of employees are effectively managed.

4.4. ICT Planning

4.4.1. Municipal Business Planning

The ICT planning follows the Municipality's annual strategic planning process and is preceded by a review of the Municipality's updated Strategic Plan to understand and translate the ICT alignment requirements with the Municipality goals and business unit strategies.

The ICT Deputy Manager is responsible for developing an Information Technology plan, the main objective of which must be to support Municipality IDP. The aim of the ICT Strategy is to define the ICT Department's objectives.

The ICT Deputy Manager must develop a budget to determine the feasibility of projects included in the Plan. The ICT budget must cover at least the coming fiscal year and should cover the coming Financial Year and two following that.

4.4.2.   ICT Department Objective Planning

On an annual basis, the IT Management must review relevant information to determine Municipality's performance and productivity needs over the next three years. Sources of relevant information include:

- Municipality's Strategic Plan and strategic objectives;
- The current ICT Plan and ICT department objectives;
- It post-service satisfaction report;
- It asset installation follow-up report;
- IT industry standards, regulations, and practices changes; and
- IT market studies, trends, opportunities and benchmarks.

ICT Deputy Manager determines the ICT Department Objectives as input to the ICT Plan. ICT Department Objectives should incorporate an analysis of relevant information collected in order to achieve Municipality's Strategic Objectives.

4.4.3.   ICT Plan Development

ICT Deputy Manager must update the ICT Plan, which must be a rolling three-year plan. The ICT Plan includes the actual management process and content details.

The ICT Steering Committee must review the ICT Plan according to the following criteria:

- Improvement in overall productivity and performance of Municipality;
- Achievement of greater efficiencies; and
- Realisation of positive Returns on Investments (ROI) in technology.

The ICT Steering Committee must present the final plan to MANCO for approval, prior to implementation.

4.4.4.   ICT Plan Implementation

The ICT Deputy Manager must be responsible for distributing (communicating) the new ICT Plan to the appropriate personnel listed on the ICT Plan Distribution list and collecting the preceding ICT Plan. The ICT Deputy Manager must ensure that resources are allocated and used in accordance with ICT asset management General Instruction and that training is conducted according to ICT user-staff training

4.4.5. ICT Plan Review

At established checkpoints in the ICT Plan, the ICT Deputy Manager must meet with members of the ICT staff to measure the ICT Plan's performance against expectations. ICT plan review checklist must be used as a guide. At least twice per year (more often if deemed necessary), the ICT Deputy Manager must coordinate a meeting, to be attended by Top Management. The purpose of the meeting is to review the ICT Plan, to ensure continuing suitability, adequacy, and effectiveness. This review must include assessing opportunities for improvement and the need for changes to the ICT Plan, including the ICT objectives.

ICT Deputy Manager is responsible for ensuring minutes of the meeting is taken and for maintaining the minutes as an ICT Record.

The meeting agenda will include the following reports from ICT Management and appropriate ICT staff:

a) Results of audits;
b) User or customer feedback;
c) Process performance and results of ICT Plan checkpoint reviews;
d) Status of preventive and corrective actions;
e) Follow up actions from previous management reviews;
f) Changes that could affect the ICT Plan; and
g) Recommendations for improvement.
h) The meeting minutes must also include any decisions and actions related to:
i) Improvement of the effectiveness of the ICT Plan and ICTs processes;
j) Technology improvements related to user requirements; and
k) Resource needs.
l) ICT Deputy Manager must submit, the minutes of the Plan Review meeting to ICT Steering Committee for approval.

4.4.6. ICT Plan Update

After review of the Information Technology Plan, ICT Management must be responsible for implementing required updates. Within three months of such updates, MANCO must verify that updates to the Plan have been implemented and are providing the desired results. ICT Management must maintain a complete record of any such update, for inclusion in the next formal Plan development.

5. SITUATIONAL ANALYSIS

5.1. ICT's Role in Supporting the Municipality's Business and Functions

The ICT Department is currently supporting the Municipality management with the following services:

- **Financial Management System** – The Munsoft financial management systems provides the Municipality with the necessary information and processing for ICTs core municipal functions. The operation, maintenance and support of this service are with Munsoft and ITNA.
- **VIP**– the ICT function also provides the Municipality with the maintenance of the Municipality's payroll and monthly payment of salaries. The operation, maintenance and support of this VIP payroll system and related services are supported by Pastel.
- **Web-site** - The ICT function is responsible for the hosting of the ELM's web-site.

- **Internet and Network Service** – The ICT function also provides the Municipality with the provision and maintenance of the Municipality's internet and communications infrastructure and services. The operation, maintenance and support of the internet infrastructure are supported by Telkom.
- **Telephony Services** - The ICT function also provides the Municipality with the provision and maintenance of the Municipality's internal telephony network and services (VoIP).
- **End-user Support** - The ICT function also provides the Municipality ICT users with end-user support. The ICT service desk functions are provided by the ICT function.

5.2. SWOT Analysis

Following is an analysis for the ICT functions Strengths, Weaknesses, Opportunities and Threats (SWOT) aimed at providing input and basis for the ICT planning and analysis as part of the ICT strategy identification.

Strengths	Action
Reliable and secure network operating system	• Maintain the network and security
Stable Financial management application (Munsoft)	• Manage the relationship and service levels of Telkom
Weaknesses	
Insufficient ICT manpower to undertake end-user and network support	• Obtain budget and appoint 2 ICT Officers
Outdated ICT infrastructure (End-user devices and peripherals)	• Initiate a project to investigate the upgrade of the outdated ICT infrastructure (End-user devices and peripherals) and replace with Thin Client technology • Three or Five year lease / own contract • Obtain budget for the upgrade • Issue RFP and award the contract
Insufficient ICT budget to address outdated technology and projects	• Use this ICT Strategic Plan to engage management to provide the necessary budget for the identified projects
No Disaster Recovery and back-up site	• Initiate project to plan and establish ICT Continuity program, including Disaster Recovery Plan and back-up site
Continuity of power	• Lack of backup power – out of date generator
Opportunities	
There is a new e-Munsoft Municipal Financial application available to replace the current outdated system	• Upgrade of the current Munsoft system to e-Munsoft application
Availability of mature and secure wireless technologies (Wi-Fi) to enhance network connectivity within the Emakhazeni Municipality building, especially meeting rooms	• Investigate and consider the utilisation of Wi-Fi to enhance network connectivity within the Emakhazeni Municipality building, especially meeting rooms
Threats	
Information security threats, e.g. viruses, hackers etc. is a threat	• Continue to upgrade Security Management System (when available) to address security threats

5.3. Risk Assessment and Evaluation

The following risk register provides a list with the top five ICT risks to be addressed.

	Risk	Impact	Probability	Risk Score	Mitigation
1	Insufficient budget to finance required ICT projects	5	5	**25**	Justify projects to management and obtain budget
2	Insufficient manpower to provide service and network support services	3	5	**15**	Justify ICT resource plan to management and obtain budget
3	Lack of Business and ICT Continuity arrangements	4	2	**8**	Initiate project to plan and establish ICT Continuity program, including Disaster Recovery Plan and back-up site
4	Outdated hardware technology that cannot be upgraded	4	4	**16**	Engage management to provide the necessary budget for the identified technology upgrade projects

For the detailed ICT Risk Register, see Risk Register (ICT).

6. ICT STRATEGY AND OBJECTIVES

6.1. ICT Objectives

Following is a summary of the ICT objectives.

Perspective	Objectives
Financial	Manage the ICT budget and costs
Customer	Ensure management and end-user satisfaction with ICT service provision
ICT Process	Assist the Municipal management to automate repetitive processes and tasks
	Train end-user on the utilisation of Information Technology and applications
	Provide a stable and secure ICT platform
	Manage the ICT service and SLA providers
	Delivery of ICT projects delivering benefits, on time, on budget, and meeting requirements and quality standards
	Enhance end-user support processes and turnaround times
People	Build internal ICT competence and support capability

6.2.   ICT Strategies

The ICT Department has adopted an "outsourcing strategy". That effectively means that operation, maintenance and support of the <u>critical applications</u> to be outsourced to strategic "outsourcing" ICT vendors.

ICT Application / Service	Strategic Vendor	Service / Systems Supported
Municipal Finance Management Application	ITNA	Munsoft
VIP Application	Pastel	VIP
Internet Services	Telkom	Internet Services
User management Systems	Obsidian	User IT accounts, emails, firewall, AV and ticketing

6.2.1.   ICT Support Strategy

The ICT Department is responsible for providing in-house support for the non-outsourced services, e.g.:

- •   E-mail
- •   Website
- •   SMS
- •   Printers and desktop devices
- •   Telephony
- •   Network management
- •   Desktop software
- •   In-house servicing and repairs
- •   Administrators for Munsoft and VIP

This requires the creation of two additional positions and the appointment of the manpower in order for ICT to provide the necessary support of the ELM management and staff. Currently, the ICT Department consists only of the Deputy Manager ICT and two permanent ICT Staff, supported by two interns (contracts expire 30thJune2016). <u>This is not sufficient to execute the ICT strategy</u> going forward and to provide the required ICT service to support the ELM in achieving the objectives of the IDP.

a.) With the inclusion of two interns. However their contracts are to finish on the 30th June 2017.

b.) ICT has expanded to the point that by losing two IT interns who have been with the unit since July 2014 will deplete the overall functions of ICT.

c.) <u>With a Deputy Manager and two permanent IT staff, ICT will not be able to cope with the current duties it has.</u>

d.) <u>ICT will struggle to implement new projects and service users in a timely manner.</u>

ICT services over 100 users, 7 offices, 6 servers and monitors website, sms, Munsoft and VIP, Firewall, internet traffic and network systems on a daily bases. On a ratio bases, currently (with five staff) it is 20-

1 (with three staff) it will be 33.5-1 based on a 100 users.

Technology Renewal Strategy

The SWOT analysis has indicated that the ICT infrastructure, i.e. the Munsoft Municipal application, personal computers (end-user devices) and the Windows software for the personal computers are outdated and require to be upgraded.

As such, the "Technology Renewal Strategy" makes provision for the planning and update of the Municipality's ICT infrastructure, following a phased approach, subject to obtaining of the necessary budgets.

7. ICT ORGANISATION

7.1. ICT Organisation Structure

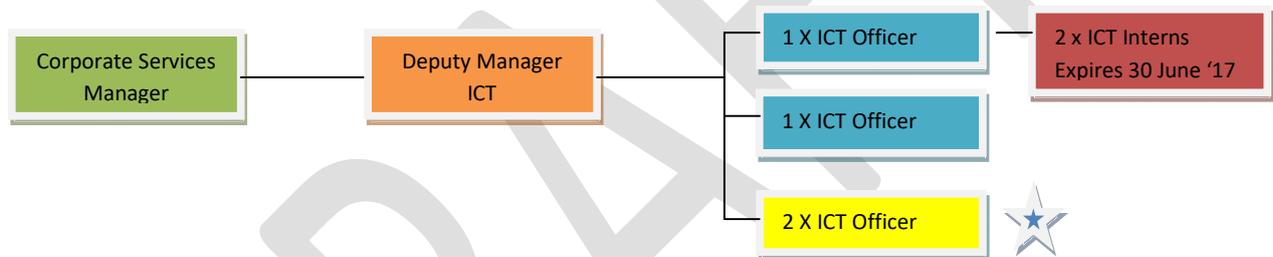The following ICT organization is required to manage the ICT function in line with the above mentioned strategies.

Figure: ICT Organisation Structure

Note: ⭐ **These positions do not exist currently.**

8. ICT ARCHITECTURE AND STANDARDS

8.1. ICT Architecture

Web	Customer Facing (Web Site			IT Processes	ICT Services and Process Management
Municipal Transaction Systems	Municipal Finance	Supply Chain		Security	
	HR	Payroll		Security	
Collaboration	E - Mail / sms	User Account Management	IT Administration	Active Directory	
Servers	6 X Application Servers			ICT Policies	
Infrastructure	Operating Systems			ICT Policies	

Servers	Storage	Network		

Figure: ICT Architecture Diagram

8.2. ICT Standards

Item	Current	Target	Timing
Financial Application	Munsoft	eMunsoft	2016
Payroll Application	VIP	VIP	N/A
e-Mail	Zimbra	Zimbra upgrades	N/A
Office Applications	MS Office 2005/2007/2010	MS Office 2007 or the then current version at time of upgrade	2016
Desktop Operating System	Windows XP/7/10	Windows 10 or the then current version at time of upgrade	2016

8.3. Technology Road Map

PROJECT	TIMELINE & ESTIMATED COST	PROGRESS 2017		PROGRESS 2018		PROGRESS 2019	
Community Project **Call Centre re-generation**		January - June	July - December	January - June	July - December	January - June	July - December
		R5,000.00, Purchase of Projector					
Internal Project **Additional two permanent ICT technicians**		January - June	July - December		July - December		July - December
	ONE YEAR 2017	Submit budget for 2017 - 18					
Internal Project **Replacement of existing hardware to a Thin Client Network. This will also serve to enhance date protection and security of data.**		January - June	July - December	January - June	July - December	January - June	July - December
	Three years 2017 - 2019 R800,000.00	Seek approval of project plan by ICT Steering Committee Follow up with scoping & tender advert	R500,000,00 Phase 1 - Head office. Stores & Technical Services. Target to complete by June 2018		R300,000.00 Phace 2 - Emthonjeni, Entokozweni & Emgweny. Target to complete by June 2019		R100,000,00 Phase 3 Siyathuthuka & Dullstroom. Target to complete by December 2019
Internal Project **Continues updating of current network, VPN & VoIP**		January - June	July - December	January - June	July - December	January - June	July - December
	Three years 2017 - 2019 R750,000.00	Seek approval of project plan by ICT Steering Committee	Improvement of VoIP latency & data flow, by increasing data speed & prioritise distribution. This project is continuous is order to keep up with technology.				

Figure: ICT Road Map

9. ICT INITIATIVES AND PROJECT

9.1. Time Table:

- Internal Project; Replacement of existing hardware to a Thin Client Network. This will also serve to enhance data capture and security of data. It is cost effective, plus low maintenance (Plug & Play technology).

- Internal Project; Continues updating of current network, VPN & VoIP

- Internal Project; Additional ICT technicians (budget availability)

- Community Project; Call Centre re-generation

10. Expansion of Projects:

10.1. Community Project
Call Centre re-generation.

It is two years since the PPP Call Centre was dissolved and Community Services are struggling with keeping a diluted service going, to service the community.
ICT want to assist in bring the service back to full strength, by supplying the services required to operate the centre (using the current six monitors).

a). With the assistance of ICT service provider Obsidian. It is proposed to setup a call record management system and re-connect the monitoring systems for disaster management.

b.) Purchase of a projector for information of the municipality as previous.
Total Cost to the municipality: R5,000.00

Note: Staffing of the Call Centre is the responsibility of the designated department.

11. INTERNAL PROJECTS

- **Replacement of existing hardware to a Thin Client Network.**

a.) This will also serve to enhance protection and security of data.

b.) Convergence of user data to a secure and central point will reduces the risk of losing information by up to 95%.

c.) And then backing that information up to a Mirror or Disaster Recovery Server off site will represent a 99.9% recovery rate.

d.) The economics of implementing this type of system is affordable to the budget of the municipality.

e.) It is low maintenance, with a "Plug & Play" or "Swop Out" system.

f.) Less down time for the user, with no data loss.

g.) Mobility of a user from one station to another, without moving any equipment and assets. (Accountability).

h.) Implementation of budget:
    1.   A three or five year lease / own. (Recommended).
    This will include the warranty for the duration of the lease and a green option of re-cycling.
    2.   Once off purchase
    Straight 12 or 24 month warranties.

i.) Funding can be sourced from Grants (MIG, Nkangala or external sponsorship)

CONCLUSION:

The situation with the ICT network (Telkom) is stable and upgradable as time goes on. This is not the case with our hardware (computers, laptops, printers, etc). They are in a fragile state and need to be replaced with a more robust system. To refer back to the Background statement, we cannot stand still and take things for granted, until it breaks, but keep moving forward with time. Change has to start now and ICT is ready to start the ball rolling to the benefit of others, in improving their work status and in turn moral. Implementing Good Governance is the pinnacle of achieving goals.