

- The IT governance initiatives aim to ensure that the IT function is compliant with current governance principles and adopts the correct framework to safeguard information.
- The IT management's initiatives are internally focussed and aim to make the IT function more effective and efficient in providing services to the organisation.
- The business applications stream should be led by the business with support and technical guidance from the IT function. The objective is to ensure that business applications fully support the organisation's processes and facilitate compliance.
- The IT operations workstream's objective is to provide improve basic IT service delivery and support in Local Municipalities.
- The IT infrastructure workstream's objective is to provide a base infrastructure to leverage technology in order to enable business processes as well as facilitate local municipalities' access to technologies and also allow them to interact with all their stakeholders.

5.5 Envisaged benefit of future IT environment

CDM's future IT environment as defined by the outcomes of the implemented initiatives will have the following high level benefits:

- IT is aligned with the operations of the Municipality;
- Compliance with King III IT governance principles;
- Compliance with Auditor General's recommendations;
- IT enables the business processes and maximises benefits;
- IT resources are used effectively;
- Proactive management of IT risks;
- Rationalisation of the IT capital investment and visibility of IT spend; and
- Reduced risk due to disaster recovery and redundancy planning.

6 MSP roadmap

The identified initiatives require prioritisation and consideration of dependencies in their implementation during the five year period. This is illustrated in the roadmap overleaf.

The initiatives to be tackled first are normally "quick win" projects that are easy to implement but have significant value to the organisation. In this case compliance initiatives that lay the foundation for an effective IT function should be tackled first, as well as activities aimed at establishing business requirements for future system selection.

MSP implementation roadmap

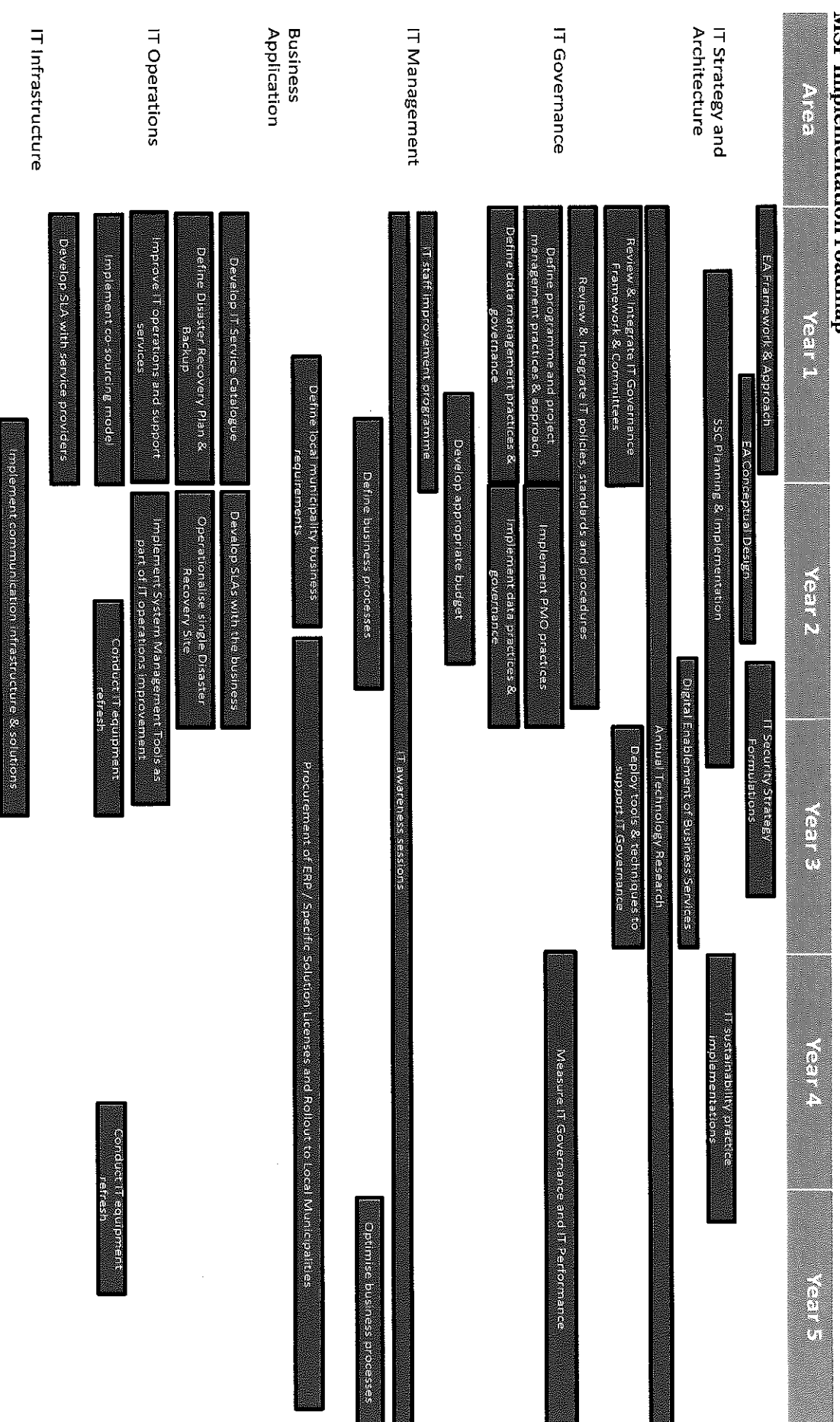


Figure 25: IT roadmap

7 Project Descriptions

The initiatives identified in the roadmap must be defined as projects with specific start and end dates. For each project, a project charter must be developed with the following items defined;

- Scope;
- Business benefits;
- Quality plan;
- Resources required; and
- Budget

Implementation of the projects can then be undertaken with external assistance where required

Below is a table providing more detail on the key initiatives identified in the MSP.

7.1.1 IT Strategy and Architecture

Initiative	Description
Investigate the viability of providing business services to citizens through the use of digital channels e.g. web portal, social media, online application.	
enablement of business services through digital channels	
Technology Innovation	Conduct an annual review of new technology trends and practices. Adopted the appropriate new technology and practices and update IT policies, procedures and practices accordingly.
Establish Enterprise Architecture practice	Formulate an enterprise architecture framework, approach and principles. Based on the framework, approach and principles formulate an enterprise architecture conceptual design. It describes how an organisation operates across both business and technology domains. The design should include the business, application, solution, data / information, technology, security and integration architecture current environment, future environment and transition roadmaps.
Implement IT SSC model (Planning and Implementation)	Implement an IT shared service centre (SSC) model where CDM will provide all specialised and shared services. The Local Municipalities will implement and operationalise all municipality specific services which cannot be shared with any other Municipality or CDM.
IT sustainability	Investigate the viability of providing sustainable IT services to business by reducing IT's carbon footprint and through responsible sustainable procurement.
IT security strategy	Formal an IT security strategy for CDM and all Local Municipalities.

Table 38: IT Strategy and Architecture Initiatives

7.1.2 IT Governance

Initiative	Description
Review and integrate all municipality IT governance framework and committees	Review the current IT governance frameworks and committees. Create one integrated IT governance framework and appropriate committees which address all the IT governance requirements and Local Municipality requirements. Deploy appropriate IT governance tools and techniques for IT governance support.
Measure IT governance and performance	To ensure that IT governance is benefitting the organisation, performance measurement processes should be instituted. The IT function needs to define some measurable and concrete indicators. Below are some examples:

Table 39: IT Governance Initiatives

Initiative	Description	Refine define standards and policies, standards and procedures	Implement Programme / Project Management Practices	Formulate data management practices
	- Increased value delivered through IT for the organisation; - Increased user satisfaction with IT services; - IT has become more agile in supporting business needs; - Better cost performance of IT; - IT risks are well managed; - IT is an enabler for change rather than an inhibitor; and - Improved transparency and understanding of IT's contribution to the business.	While IT policies have been defined, it is important to refine them as necessary, as well as develop accompanying standards and procedures. IT Standards and Policies can be subdivided into the areas of: - IT Management; - Data; - Security; - Quality Control; - Technology and Infrastructure; and - Applications. Definitions: Policies A policy sets direction and expectations on a subject. It is approved at the highest level of the organization, and designed to remain in effect regardless of changes in people, technology, or the mission of the organisation. The need for policies is driven by the business objectives, resource requirements, organisational risks, rules and legislation and the maturity level of the organisation. It also provides guidance for standards, processes and procedures, controls and structures; Standards describe the guidelines that should direct the practical implementation of policies. Standards establish a baseline for accomplishing procedures; Processes: A sequence or order of activities, that also outlines the different decision points and functions responsible; and Procedures: detail the how of the activities within a certain process.	Define a programme and project management office approach and practices. The programme and project management office approach and practices must comply with a leading practice project management methodology. A project management office must be operationalised to manage all related Local Municipality projects. Ensure that the programme and project management approach and practices address: - Feasibility studies; - Benefits management; - Project prioritisation; - Project investment management; - Business cases; - Project scope; - Project risks and issues; - Review cycles; - Change control; - Project quality measures; - Post implementation reviews; - Project phase handover points and documentation.	Formulate and rollout data and information management as well as data governance practices.

7.1.3 IT Management

Initiative	Description		
IT staff improvement programme Conduct IT awareness sessions	Implement formal IT staff career paths with performance measure, career succession, recruitment plan and IT training programmes. Host IT service awareness sessions with business on a continuous basis to inform business of IT initiatives, possible issues, business requirements and solutions. These sessions will also market IT and its services.		
Develop appropriate IT budgets	Below is a leading practice process to develop an IT budget. <pre> graph TD subgraph IT_Organisation [IT Organisation] A[Determine budget standards and principles] --> B[Determine budget framework/IT chart of accounts] B --> C[Assess current IT strategy and IT plans] C --> D[Assess current risk portfolio] D --> E[Examine current and planned IT project portfolio] E --> F[Develop budget] F --> G[Develop relevant KPIs] G --> H[Monitor costs & charging back] H --> G end subgraph IT_Steering_Committee [IT Steering Committee] I[Review and approve the budget] end G --> I I --> B D --> C </pre>		

Table 40: IT Management Initiatives

7.1.4 Business Applications

Initiative	Description
Define business processes	The activity of defining business processes gives those involved a unique insight into the processes being defined and their place within the business. During the process, participants may identify areas of inefficiency, internal control weaknesses, process gaps, risks or potential change impacts. The following are sample process elements that should be considered when defining business processes: - Process owners/actors; - Roles; - Identification of internal/external customers and internal/external suppliers; - Process start point; - Process end point; - Process steps; - Decision points; - Hand-offs; - Product, service and documents produced; - Interactions with systems (if applicable); - Organizational structure; - Identification of critical inputs/outputs; - Identification of current metrics and potential new metrics; and

7.1.5 IT Operations

Table 41: IT Business Application Initiatives

Initiative	Description
Develop business requirements	A set of business requirements will be required before a system selection process can take place. The business requirements will specifically detail what the business requires from the systems and the intricate details specific to the business processes. The business requirements will form the schematic on which the system will be configured.
Implement ERP or specialised solutions	A system implementation methodology should be used for implementing an ERP system or package solution. System integrators and vendors will typically have their own tailored methodology. The use of a methodology may reduce the risk of the package implementation going beyond budget and timelines, and will ensure that the ERP system meets the requirements of the business and delivers the value. An implementation methodology will generally have the following phases: • Assess - In this phase you plan your project and lay the foundations for successful implementation. It is at this stage that you make the strategic decisions crucial to your project: ○ Define your project charter (goals, objectives, etc.); ○ Clarify the scope of your implementation; ○ Define your project schedule and budget plan; and ○ Establish the project organization and assign resources. • Design - In this phase you create a blueprint which documents your enterprise's requirements and establishes how your business processes and organizational structure are to be represented in the System; • Build - In this phase, you configure the requirements contained in the Business Blueprint. • Implement - In this phase you complete your preparations, including testing, end user training, system management, and cutover activities. You also need to resolve all open issues and ensure that all the prerequisites for your system to go live have been fulfilled; and • Operate - In this phase you move from a pre-production environment to the live system. The most important elements include setting up production support, monitoring system transactions, and optimizing overall system performance. A change management methodology needs to accompany the implementation to ensure that Local Municipality staff is supported throughout the implementation.
Optimise business processes	Once the IT systems and business processes have been implemented, there should be a continual review to assess whether the processes are operating at optimal efficiency. If they are not operating at optimal efficiency, then modifications should be made.

Initiative	Description
Develop IT service catalogue	Below are the steps that may be followed to define an IT service catalogue: Task 1: Identify Current IT Services 1. Gather inventory of current IT Services; 2. Define IT Services in scope for the IT service catalogue project ; 3. Define service catalogue structure and elements; and 4. Identify participants and schedule facilitated working sessions to review / confirm the in-scope IT Services, service bundles and service elements. 5. Begin development of the IT Service Inventory. Task 2: Define elements of IT Services 1. Conduct facilitated sessions with owners of IT services. The purpose of these

Initiative	Description	Improve IT operational and support services	Define and agree disaster recovery and backup plan
sessions is to collaboratively work to validate and confirm: • Current services provided by IT and their priority/impact to the business; • Associated features for each service; • Current levels of service provided to the business; • Service Interdependencies; • Service Elements; • Service Owners; and • Service Delivery components. Task 3: Build IT Service Catalogue 1. Complete a prototype for one service and seek approval from the business; 2. Upon approval, complete the IT service catalogue; 3. Completed drafts of the IT service catalogue will be provided to the business for review; and 4. Discuss the feedback with the business and update the IT service catalogue and revise catalogue based on feedback.	Implement capacity, demand, maintenance and performance planning activities. Use a formal work request order system to log and resolve issues, incidents and problems. System monitoring tools need to be deployed to assist with software distribution, asset management, network, application and server monitoring.	A single disaster recovery site, plan and backup plan should be define for Local Municipalities. The following steps should be followed to derive a disaster recovery (DR) plan for all the Local Municipalities: • Understand what IT DR Plan components exist for the current IT environment; • Identify gaps in IT DR components for the current IT environment; • Identify which items of the IT DR Plan framework you seek to address / adopt; • Confirm the proposed future IT DR Environment based on the IT DR strategy; • Identify IT DR components that need to be actioned / drafted; and • Allocate IT DR components to team members to address. The disaster recovery framework focuses on: • IT Network - WAN and LAN and equipment used to support the IT infrastructure i.e. servers, firewalls, routers, lines etc. • Application Services - hardware and applications used to support the business processes. The DR plan should focus on the following elements: • Logical layout- Schematic of main infrastructure components and their network connectivity. • Floor allocation - Schematic depicting physical location of data and telephone network points, per business unit, and physical location of each server. • Implemented Inventory - Comprehensive inventory of network infrastructure, with descriptions and relevant information. This can include servers, workstations etc. • Configuration checks - Detailed procedures to check that all parameters and settings are configured appropriately. • Connectivity checks- Detailed procedures to check that the infrastructure components are logically connected. • Application checks - Detailed procedures to check that each application is operating appropriately • Back-up procedures - Detailed back-up procedures. • Restore procedures - Specific restore procedures including specifications on what equipment to use, where to obtain the back-up material, how to load the apps on the servers, how to image a machine, how to restore data etc. • Risks and mitigation - This section should detail all the identified risks and any action plans to address these.	The DR plan should focus on the following elements: • Logical layout- Schematic of main infrastructure components and their network connectivity. • Floor allocation - Schematic depicting physical location of data and telephone network points, per business unit, and physical location of each server. • Implemented Inventory - Comprehensive inventory of network infrastructure, with descriptions and relevant information. This can include servers, workstations etc. • Configuration checks - Detailed procedures to check that all parameters and settings are configured appropriately. • Connectivity checks- Detailed procedures to check that the infrastructure components are logically connected. • Application checks - Detailed procedures to check that each application is operating appropriately • Back-up procedures - Detailed back-up procedures. • Restore procedures - Specific restore procedures including specifications on what equipment to use, where to obtain the back-up material, how to load the apps on the servers, how to image a machine, how to restore data etc. • Risks and mitigation - This section should detail all the identified risks and any action plans to address these.

Initiative	Description		
Investigate and implement co-sourcing strategy	Co-sourcing is a business practice where a service is performed by staff from inside an organization and also by an external service provider. A co-sourcing strategy needs to be developed and validated to clearly show cost and efficiency benefits as well as regulatory compliance, before its implementation. Other innovations to be investigated at the same time include Green IT and Cloud Computing.		
IT equipment Refresh	Review appropriateness of hardware and network infrastructure and recommend appropriate timeline for equipment refresh in line with overall budgetary constraints.		
Develop SLAs with external service providers	The IT function has a responsibility to formally manage external vendors and contracts. The objectives of vendor and contract management are the following: • A standardised approach to third-party IT services and delivery management to ensure value delivery, compliance and effective risk mitigation; • Defining rules and policies to control third-party services, especially related to business-critical providers; • Reviewing vendor performance considering defined key performance indicators and reporting this performance to the business and to IT; • Educating the business about third-party IT services and performing education around third-party services opportunities; • Assisting IT management in developing IT outsourcing strategies; • Developing and updating the service catalogue on an ongoing basis; and • Reviewing service cost and identifying opportunities for cost savings. A key tool in external service provider management is the development of service level agreements. A typical SLA covers customer requirements, services to be delivered, service levels, service support requirements, quantitative and qualitative metrics for measuring the service signed off by all relevant stakeholders, costing and commercial arrangements, as well as roles and responsibilities for the service level management process. Typical items related to service levels include turnaround time, availability, reliability, performance, capacity for growth, levels of support and continuity planning.		

7.1.6 IT Infrastructure

Table 42: IT Operations Initiatives

Initiative	Description	
Develop OLAs with the business	The main objective of the OLA process is to enable the delivery of reliable, responsive, effective and efficient IT services, that meet the business/clients requirements as precisely as possible. OLAs represent the internal contract between the IT organisation and its clients (Business Units). OLAs often result in improved behaviour from business units – by exposing the IT impacts of their business requirements and requests for services, the business have an improved understanding of the IT environment, its resources and constraints. The OLA is usually based on an IT service catalogue (ITSC) which lists available IT services, alternative quality levels, and related costs. The negotiation of the OLA is an important governance process since it leads to increased business/IT alignment through greater clarity on business requirements. It also leads to improved sourcing decisions. Once requirements are explicitly stated in a detailed form, comparison can be made between internal service provisioning and outsourced options. A typical OLA covers customer requirements, services to be delivered, service levels, service support requirements, quantitative and qualitative metrics for measuring the service signed off by all relevant stakeholders, costing and commercial arrangements, as well as roles and responsibilities for the service level management process. Typical items related to service levels include turnaround time, availability, reliability, performance, capacity for growth, levels of support and continuity planning.	
	• Testing - This section will serve to define and schedule the testing of the areas of effort and the infrastructure as a combined whole.	

Initiative	Description

Table 43: IT Infrastructure Initiatives

8 MSP implementation cost estimates

The initiatives identified in the roadmap must be defined as projects with specific start and end dates. For each project, a project charter must be developed with the following items defined;

- Scope;
- Business benefits;
- Quality plan;
- Resources required; and
- Budget

An initial budget estimate is indicated below but must be refined during the project definition phase.

Free – only personnel cost; Low - <R1,000,000; Medium - R1,000,000 – R2,000,000; High – R2,000,000 – R5,000,000; Very High - >R5,000,000

Project	Costs	
• Investigate enablement of business services through digital channels	Medium	
• Technology innovation	Low	
• Establish enterprise architecture practices	High	
• Implement IT SSC model	Very high	
• IT sustainability	Medium	
• IT security strategy	High	
• Review and integrate all municipality IT governance framework and committees	Free	
• Refine policies, standards and procedures	Free	
• Deploy tools and techniques to support IT governance	Medium	
• Measure IT governance and IT performance	Free	
• Implement Programme / Project Management Practices	Low	
• Formulate data management practices	Medium	
• IT staff improvement programme	Free	
• Conduct IT awareness sessions	Free	

them.

The projects indicated as free may not occasion external cost but will require internal resources to implement

Table 44: IT Initiatives Costing Ranges

Project	Costs
• Develop appropriate IT budget	Free
• Develop and optimise processes	Medium / High
• Develop business requirements	Medium
• Business application implementation	Very high
• Improve IT operations and support services	Free
• Develop IT service catalogue	Free
• Define IT disaster recovery plan	Very high
• Develop internal SLAs	Free
• Develop and implement co-sourcing strategy	Free
• Establish Service Level Agreements (SLAs) with service providers	Free
• Implement communications solution	Medium
• Implement equipment refresh initiative	Very high