

Infrastructure Delivery Management Toolkit: 2010 Edition

Overview

Presentation:

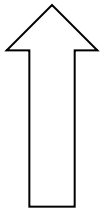
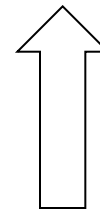
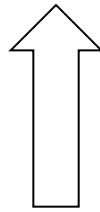
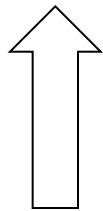
Municipal CFO's Forum Lekgotla

5 December 2011

Contents of the Toolkit presentation

- Infrastructure Delivery in context
- Introduction of IDM Toolkit – A system for infrastructure delivery
- Purpose of the Toolkit and how it can help users
- What's new in the 2010 edition
- Structure of the Toolkit
- The Infrastructure Delivery Management System (IDMS)
- Introduction to some key concepts
- Quick “Live” demonstration
- Use of the Toolkit by Municipalities – can it be used?

Infrastructure Delivery in context



Deliver Infrastructure

- SYSTEM**
Policies, Processes, Procedures, Methods & Tools
based on best practice
- Lack of proper planning, prioritisation & budgeting
 - Poor quality of construction
 - Costly delays
 - Under-spending on project
 - Cost overruns
 - Non-compliance
 - Value for money questions



HR Structure & Staffing (People)

Organisation behaviour: Beliefs, values, management style

Organisation Mandate , Strategy & Objectives

Legislation & Regulations

Introduction of IDM Toolkit – A System for infra delivery

- The Construction Industry Development Board (CIDB) in collaboration with National Treasury (NT) developed and published:
 - Infrastructure Delivery Management Guidelines - **Toolkit (2006)**
 - The Infrastructure Delivery Management Toolkit - **IDM Toolkit (October 2010)** – replacing the 2006 version
 - This **new web-based version** “Provides ‘**how to**’ guidelines for infrastructure delivery and procurement management necessary to deliver, operate and maintain infrastructure, **capacitate** delivery managers and facilitate a **uniform approach** to infrastructure delivery management”

Infrastructure Delivery Improvement Programme (IDIP)

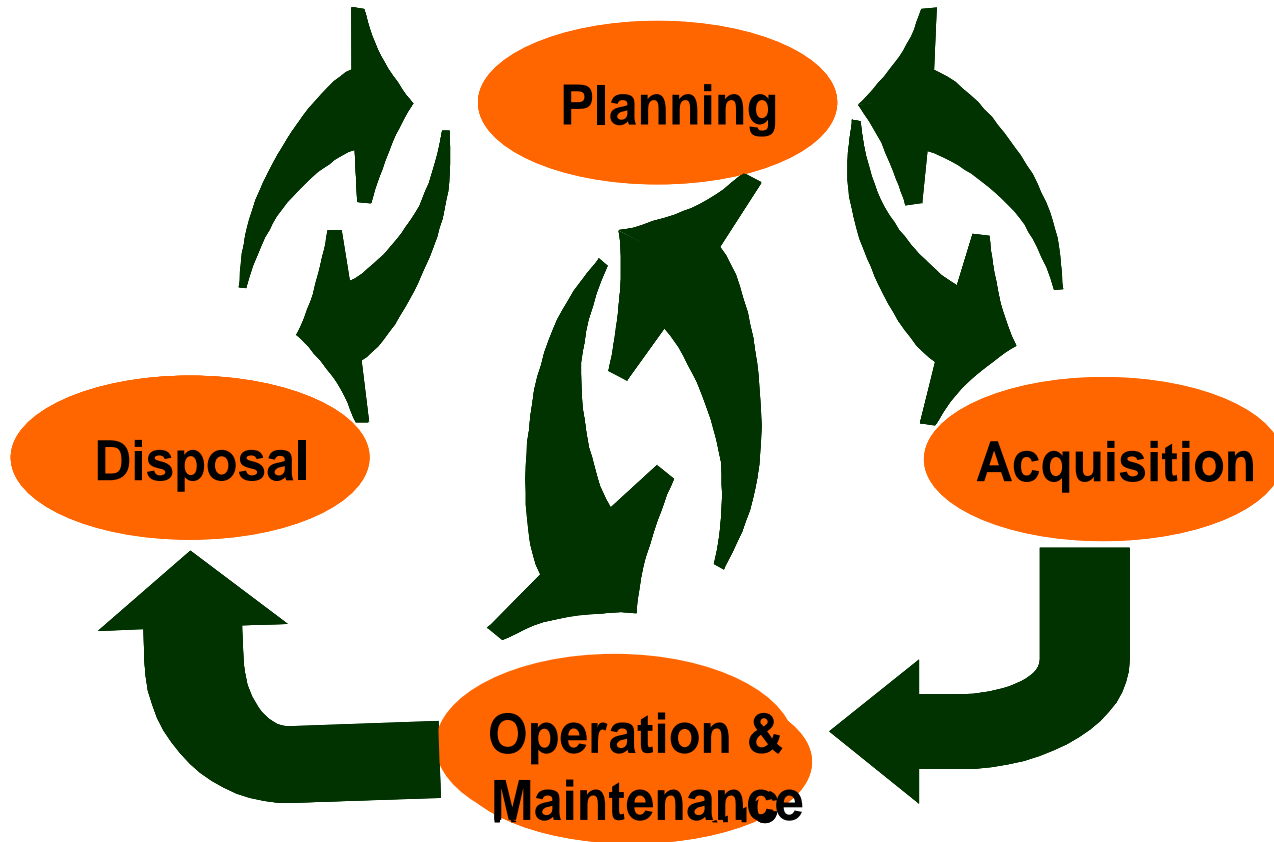
The objective of IDIP is to support improved efficiency and effectiveness of the delivery of public sector infrastructure by institutionalising best practice tools and by building capacity to enable departments to deliver on their infrastructure mandates.

The IDM Toolkit is integral to, and underpins IDIP

Purpose of the Toolkit & how it can help users

- Provides a **systematic approach** to infrastructure delivery covering the **full life cycle** from needs identification, planning and budgeting through to procurement, construction, handover, operations and maintenance.

Full Life Cycle



Purpose of the Toolkit & how it can help users (cont)

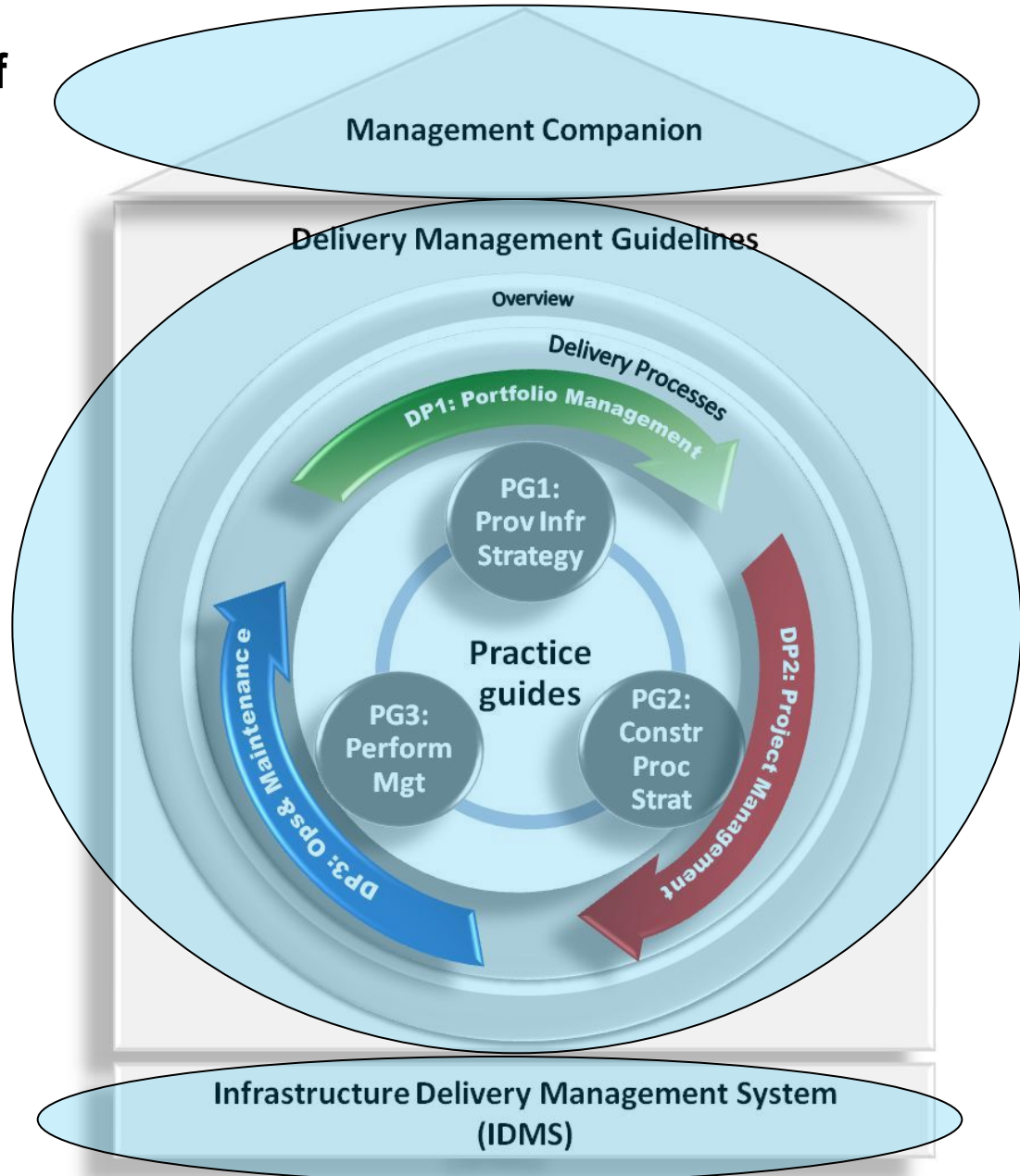
- Provides a **systematic approach** to infrastructure delivery covering the **life full cycle** from needs identification, planning and budgeting through to procurement, construction, handover , operations and maintenance.
- Provides a documented **body of knowledge** and set of processes that represent generally **recognised local and international best practices** in the delivery management of infrastructure.
- Target users include both technical and non-technical managers
- Provides **“how to”** guidelines for infrastructure delivery and procurement management necessary to deliver, operate and maintain infrastructure
- Helps **capacitate** managers
- Facilitates a **uniform approach** to infrastructure delivery management
- The Toolkit, when adhered to, will also assist departments in **complying** with applicable legislative requirements

What's new in the 2010 edition

- **Modernised approach to procurement**
 - Strategic procurement
 - Gateway system
 - Institutionalising alternative delivery models
 - Introduces the concept of Packages
- Updated and **user friendly web based** Infrastructure Delivery Management System (IDMS)
- Alignment to GIAMA
- **Readiness for Local Government**
- Emphasis on “Portfolio Management”
- New modules:
 - Provincial Infrastructure Strategy
 - Construction Procurement Strategy
 - Operations and Maintenance
 - Performance Management

Structure of Toolkit

Components of the Toolkit



Management Companion:



Management
Companion

- A quick reference guide
- Key audience: **Executive, top and senior management**
- Provides senior managers with sufficient understanding so as to hold middle managers accountable.
- Contains high level summary information – for all users
- Provides middle managers with a **quick reference**
- Printed in “pocket book size” – A5 (111 pages)
- Published in print (as well as electronic) format by CIDB
- Also printable by user by download off the Web

Structure of Toolkit – Components

Delivery Management Guidelines:

- Key audience:
 - The “do’ers” of the work
 - Middle to lower managers & specialists
 - Director, Deputy Director, Assistant Director
- The **main body of knowledge, mainly text**, to provide subject matter knowledge per module
- Provides context and guidelines to using the IDMS
- Generic enough to apply to all three spheres of government, but focussed for Provincial
- A4 type size – printable by user by download off the IDMS
- Divided into:
 - **3 x Delivery Process Guidelines** and
 - **3 x Practice Guides**



Structure of Toolkit – Components

Infrastructure Delivery Management System (IDMS):

Infrastructure Delivery Management System
(IDMS)

- Key audience:
 - The “do’ers” of the work
 - Middle to lower managers & specialists
 - Director, Deputy Director, Assistant Director
- Encompasses all of the content
- A web based tool for users to navigate through the management processes via “**roadmaps**” - hosted on CIDB server – no software required by user
- Generic enough to apply to any Provincial Department
- It provides “what must I do?” the “how to” on process steps in day to day duties to manage infrastructure delivery
- Includes **Templates, Examples & Supporting Docs**
- Not readily available on CD – NT & CIDB want users to work on up-to-date web based system
- Includes **PDF versions** of Delivery Management Guideline modules and Management Companion & other docs i.e. printable by the user if need be

Structure of Toolkit – Components

The Toolkit contains elements that are:

- Mandatory: in so far as containing Guidelines and Templates that are required for compliance to legislation e.g. PFMA, DORA, GIAMA and CIDB Act
- Recommended: with reference to generally accepted local and international best practice
- Optional: with reference to the inclusion of proven practical templates, tools and techniques.

Structure of Toolkit – Content

Management Companion - “Pocket book” summary version (**Total 111 pages**):

- Overview
- Guidelines to the Delivery Processes (DP's):
 - DP1 Portfolio Management
 - DP2 Project Management
 - DP3 Operations and Maintenance
- Practice Guides (PG's):
 - PG 1 Provincial Infrastructure Strategy
 - PG2 Construction Procurement Strategy
 - PG3 Performance Management.

Delivery Management Guidelines (DMG) - The main body of knowledge:

- Overview
- Guidelines to the Delivery Processes:
 - DP1 Portfolio Management
 - DP2 Project Management
 - DP3 Operations and Maintenance
- Practice Guides:
 - PG 1 Provincial Infrastructure Strategy
 - PG2 Construction Procurement Strategy
 - PG3 Performance Management.

(Total 359 pages)

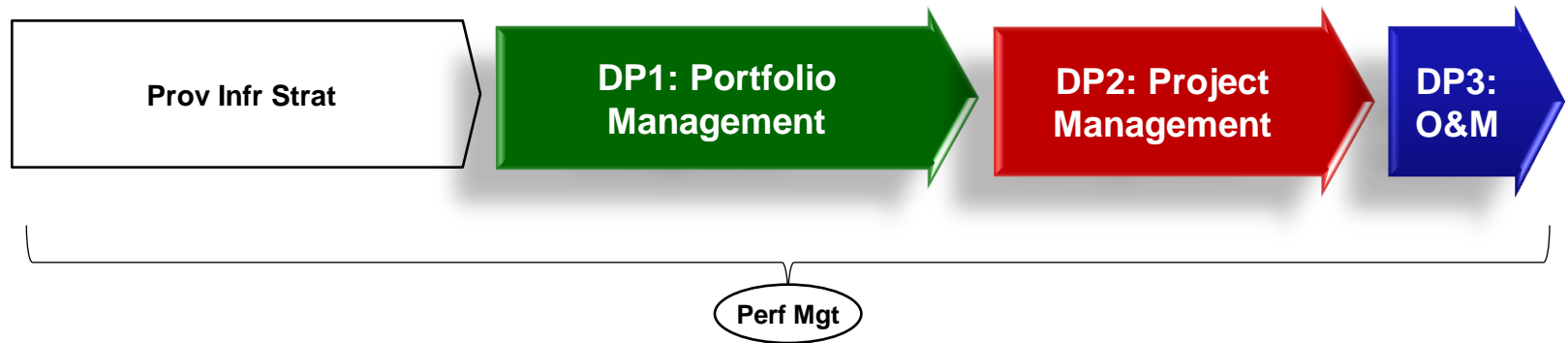
Infrastructure Delivery Management System (IDMS):

- Web based tool for users to navigate through the delivery management processes via “roadmaps”

Infrastructure Delivery Management System (IDMS)

- The model that describes the processes that make up public sector infrastructure management, mainly applied to the construction industry
- It outlines the core processes associated with the model for planning, delivery, procurement, operation and maintenance of infrastructure works
- Three Delivery Processes:
 - **DP1 Portfolio Management**
 - **DP2 Project Management**
 - **DP3 Operations and Maintenance**

The IDMS



DP1: Portfolio Management

Comprises **Infrastructure Planning** and **Programme Management** (including developing Construction Procurement Strategies)

“Portfolio Management is concerned with

doing the right work”

(Standard for Portfolio Management 2006 - PMI)

- PFMA Section 38 (1):
 - “ .. evaluating all major capital projects ..”
 - “..effective, efficient, economical and transparent use of resources..”
 - “.. safeguarding and maintenance ..”
- Chapter 5 of Treasury Regulations:
 - Prepare and submit a strategic plan and APP for MTEF period annually

- **GIAMA:**
 - **U-AMP:**
 - Reviewed, submitted annually
 - Strategic needs assessment
 - **C-AMP**
 - Reviewed, submitted annually
 - Life cycle management plan for assets
- **OHS: Operations and Maintenance requirements**

DP2: Project Management

Entails the **implementation of the projects** initiated during the Portfolio Planning process

Project Implementation:

- Plan
- Design (if required)
- Execute the Works
- Close Out

“doing the work right”

DP3: Operations and Maintenance.

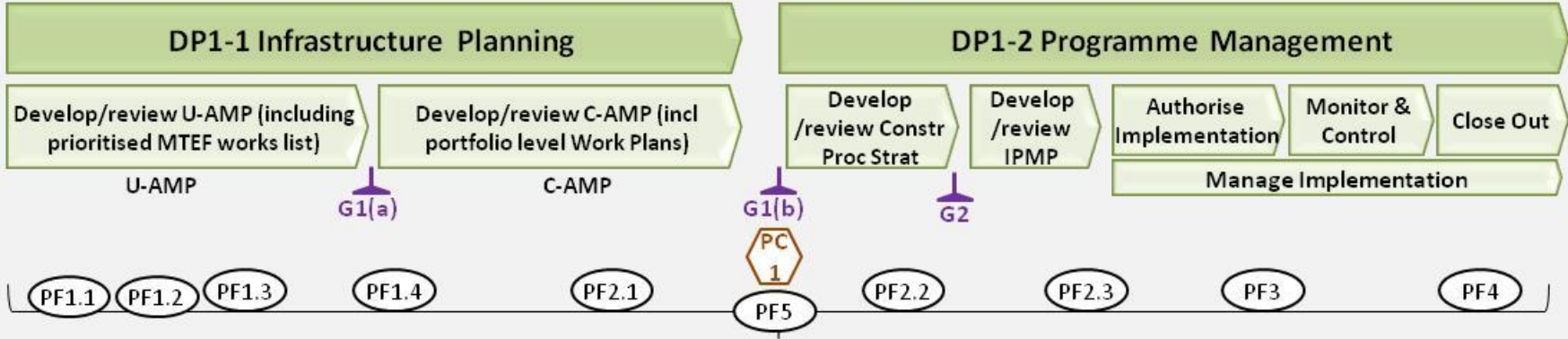
Entails the process of:

- Recognising & accepting Assets (Asset Register)
- Mobilisation for Facilities Management
- Asset operations, which include
 - **Facilities management**
 - **Engineering infrastructure management**
 - **Property management**
 - **Condition assessment surveys and**
 - **Remaining life-cycle costing**
- Maintaining assets
- The demobilisation of Facilities Management

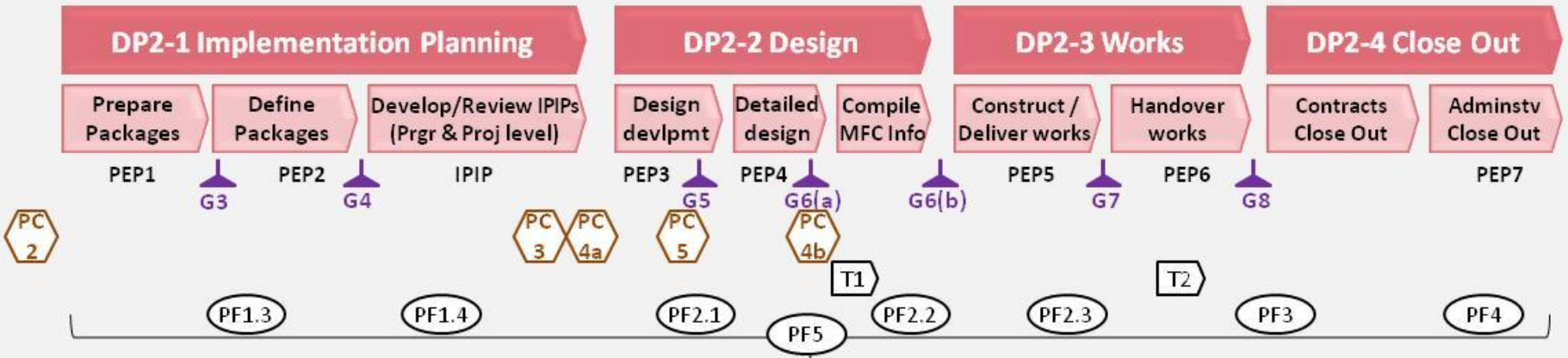
The IDMS

Prov Infr Strat

DP1: Portfolio Management



DP2: Project Management



DP3: Operations & Maintenance



The 2010 IDMS

- Built up in layers:
 - Main delivery processes – Level 1
 - Sub delivery processes – Levels 2 and 3
- Delivery Gates
- Procurement milestones
- Performance Management processes

DP1: Portfolio Management

DP1-1 Infrastructure Planning

G1(a)

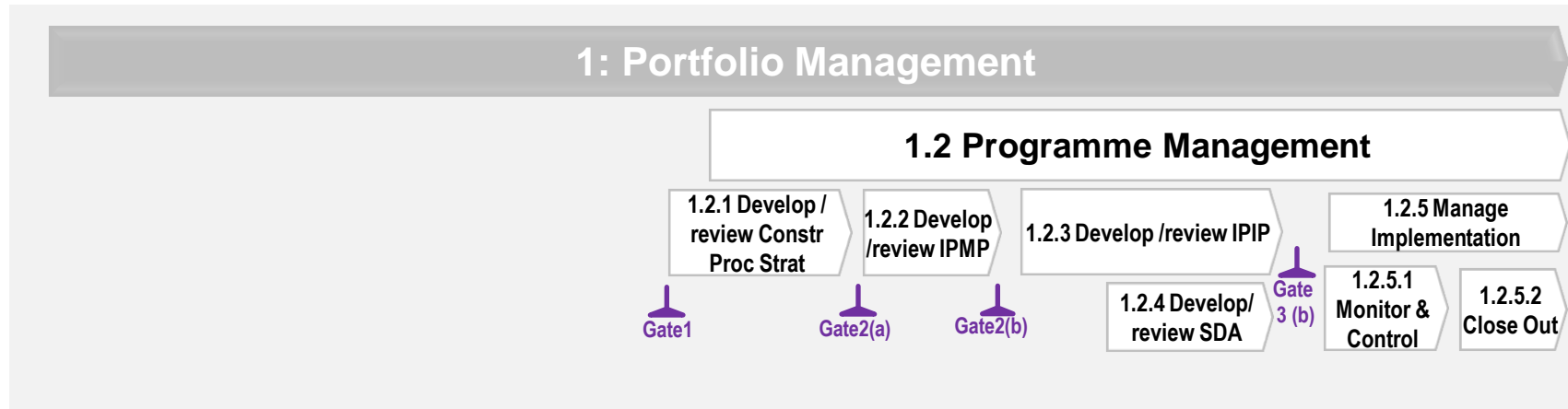
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Introduction to some key concepts

1. Control Gates
2. Packaging
3. Alternative Contracting and Pricing Strategies, and Forms of Contract
4. Construction Procurement Strategy

Introduction to some key concepts (cont)



Control Gates

The Control Gate System

The CIDB Infrastructure Gateway Process provides a number of **control points (gates)** in the infrastructure life cycle where a **decision is required before proceeding from one stage to another.**

Why Control Gates?

- Helps make the system work – order & control
- Ensures projects more accurately scoped & costed at an earlier stage in the asset life cycle
- Reduces time & cost overruns
- Improves procurement discipline
- Enables risks to be managed more effectively
- Reinforces responsibility & accountability for decisions – provides audit trail
- Enables projects to be better aligned with policies and objectives.

Typical challenges in infrastructure delivery:

To name a few:

- Many projects
- Few people to manage and monitor projects
- Too many relationships to manage
- Scarcity of professionals in the public service
- Consultant driven
- Low skill levels and poor quality
- Incorporating contractor development and job creation objectives
- Too little time
- Long decision making processes – regulations & policies

Introduction to some key concepts (cont)

Exacerbated by:

- **Individual project approach:** consultants and contractors are appointed for each and every project
- “**Unbundling**” aimed at reducing the size of contracts in order to target small emerging enterprises

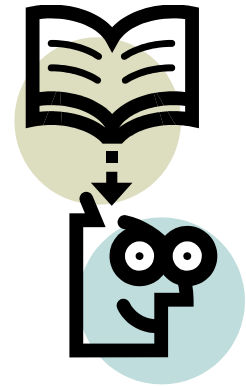
Resulting in extremely high numbers of predominantly relatively small contracts

Unintended consequence:

- *work overload* project managers and procurement staff
- *significantly increases the number of administration actions*
- *requires significantly higher contract administration inputs from built environment professionals*
- *Often results in substandard work due to lack of supervision & inexperience, which requires rework & higher maintenance*



What's the answer?



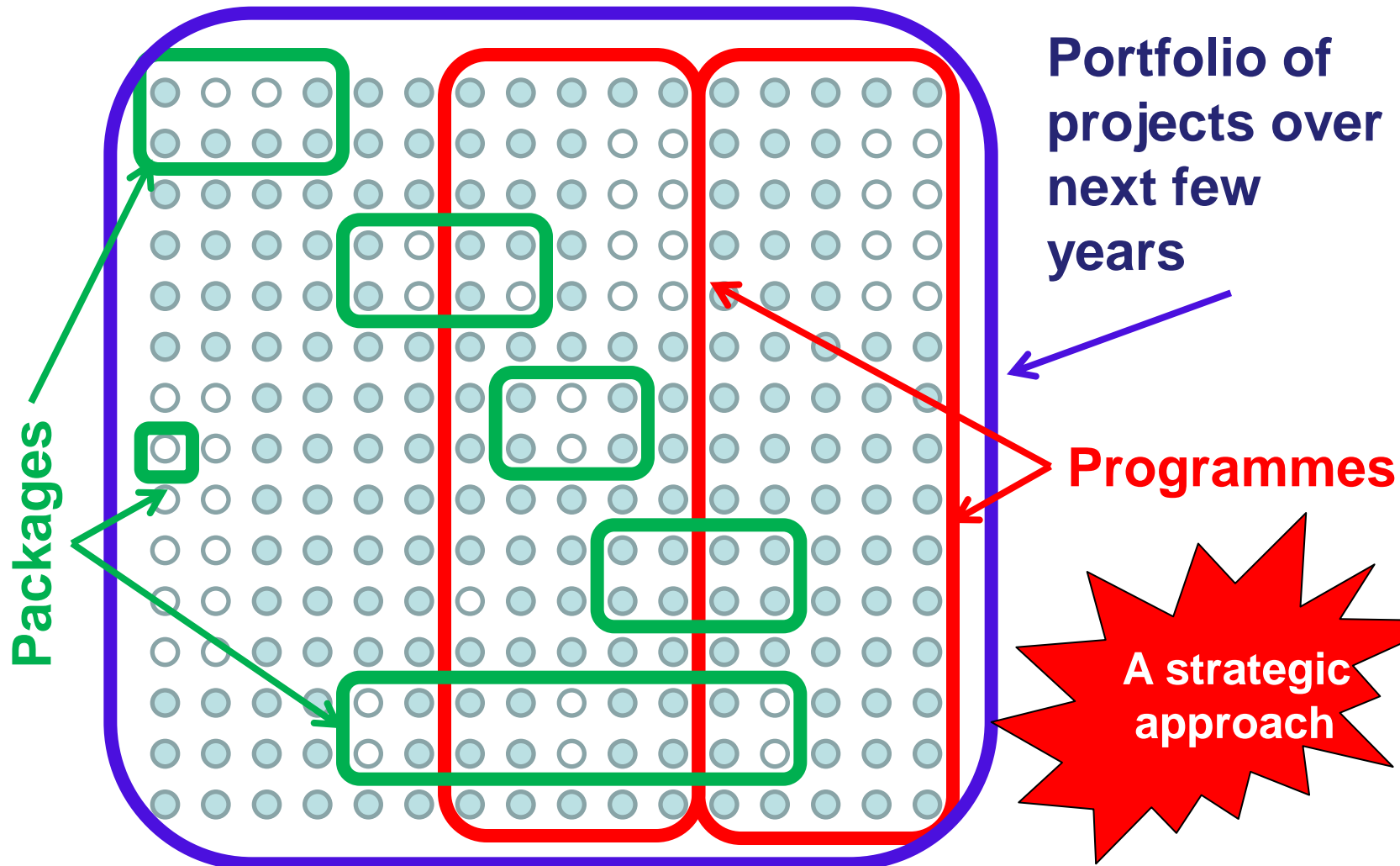
Package the Work

“Group” the projects, and procure as “package” under a single contract = larger and longer contracts

What this does is to:

- 1) Reduce the work load of the SCM units
- 2) Reduce the number of relationships to a manageable level which frees up government’s capacity to properly brief service providers, manage contracts better etc.
- 3) Allow skills to be rapidly replicated
- 4) Improve job creation and SMME development outcomes

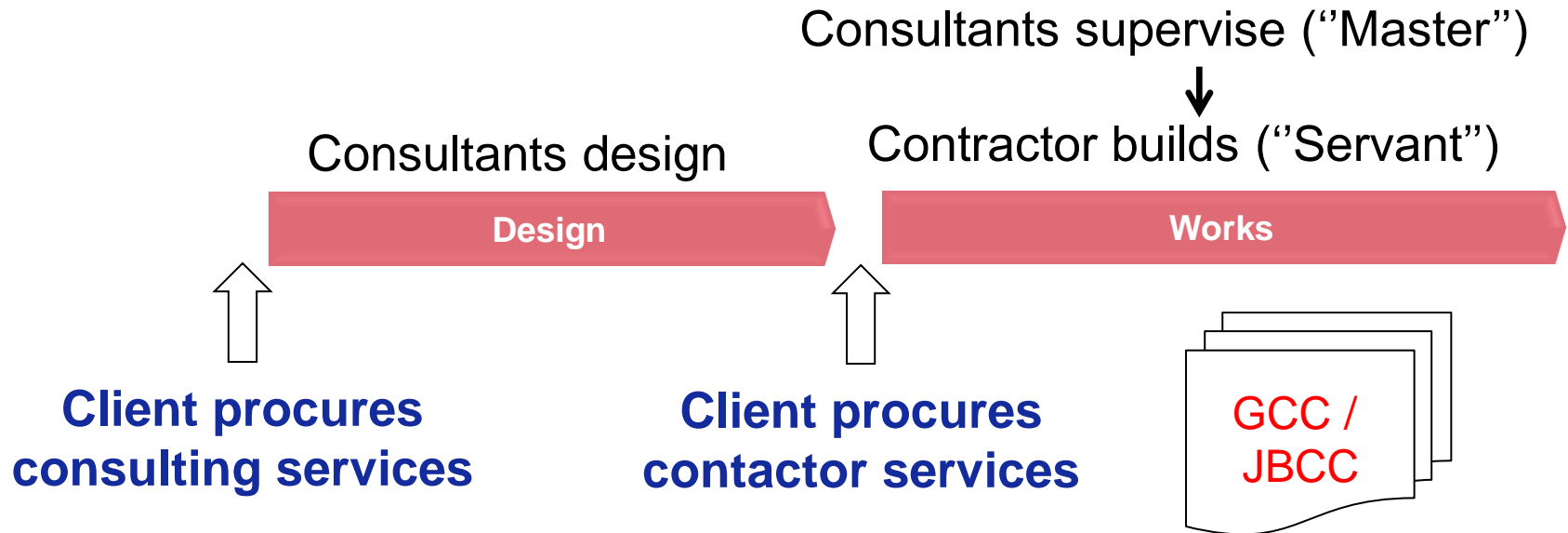
Introduction to some key concepts (cont)



Package = works which have been grouped together for delivery under a single contract

Introduction to some key concepts (cont)

Traditional approach to construction:

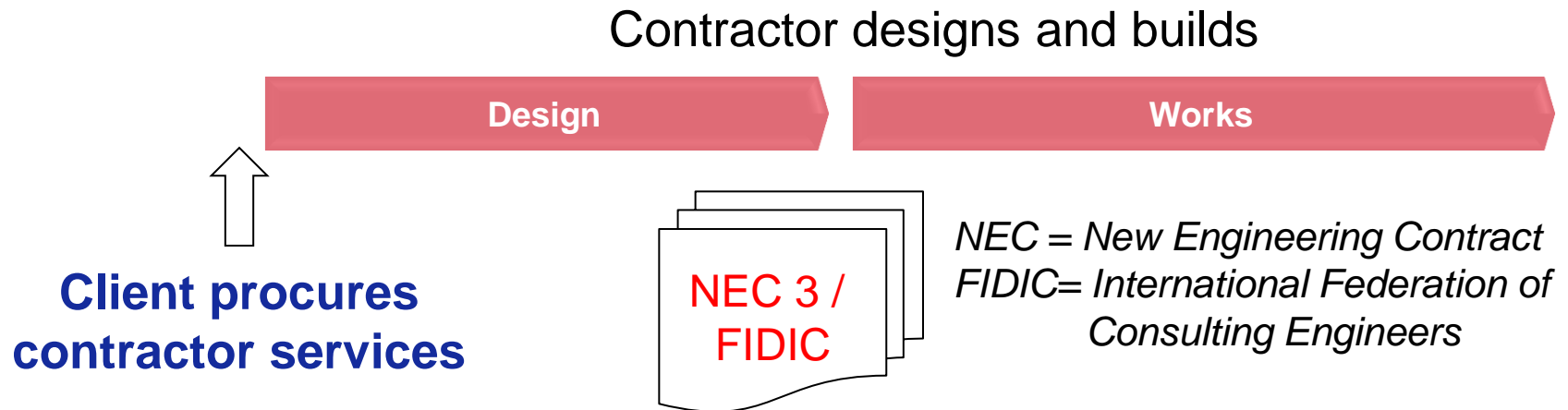


“Design by Employer”

- 2 x procurement processes
- Master – Servant relationships (JBCC / GCC forms of contracts)
- Poor integration between design and construction

Introduction to some key concepts (cont)

Alternative approach to construction:



“Design and Build”

- Only 1 x procurement process
- Collaborate relationship (NEC form of contract)
- Good integration between design and construction – promoting innovation and construction efficiencies

Introduction to some key concepts (cont)

Alternative approaches to construction may therefore include:

Design and build

Contractor designs a project based on a brief provided by the client and constructs it

or

Develop and construct

Contract based on a scheme design prepared by the client under which a contractor produces drawings and constructs it

Using eg. NEC 3 as a Form of Contract

Traditional Pricing Strategies

i.e Priced Contract based on:

- Lump Sum
- Bill of Quantities

Alternative Pricing Strategies

i.e Priced Contract based on:

- **Cost Reimbursable**
- **Target Cost**

Cost Reimbursable

- Contract in which the contractor is **paid for his actual expenditure plus a percentage or fee.**
- Use where an emergency exists
 - the scope of work cannot be priced ahead of the works
 - the employer cannot transfer the project risk to the contractor or the risk pricing is prohibitive
 - the contract is likely to be disrupted by uncontrollable events

Cost Reimbursable

Fee includes profit and overheads

Fee

Wages and salaries

+

Materials at open market rates

+

Site overhead percentage

Fee includes profit and overheads

Fee

Equipment at agreed rates, market related rates or percentage up or down on a hire list

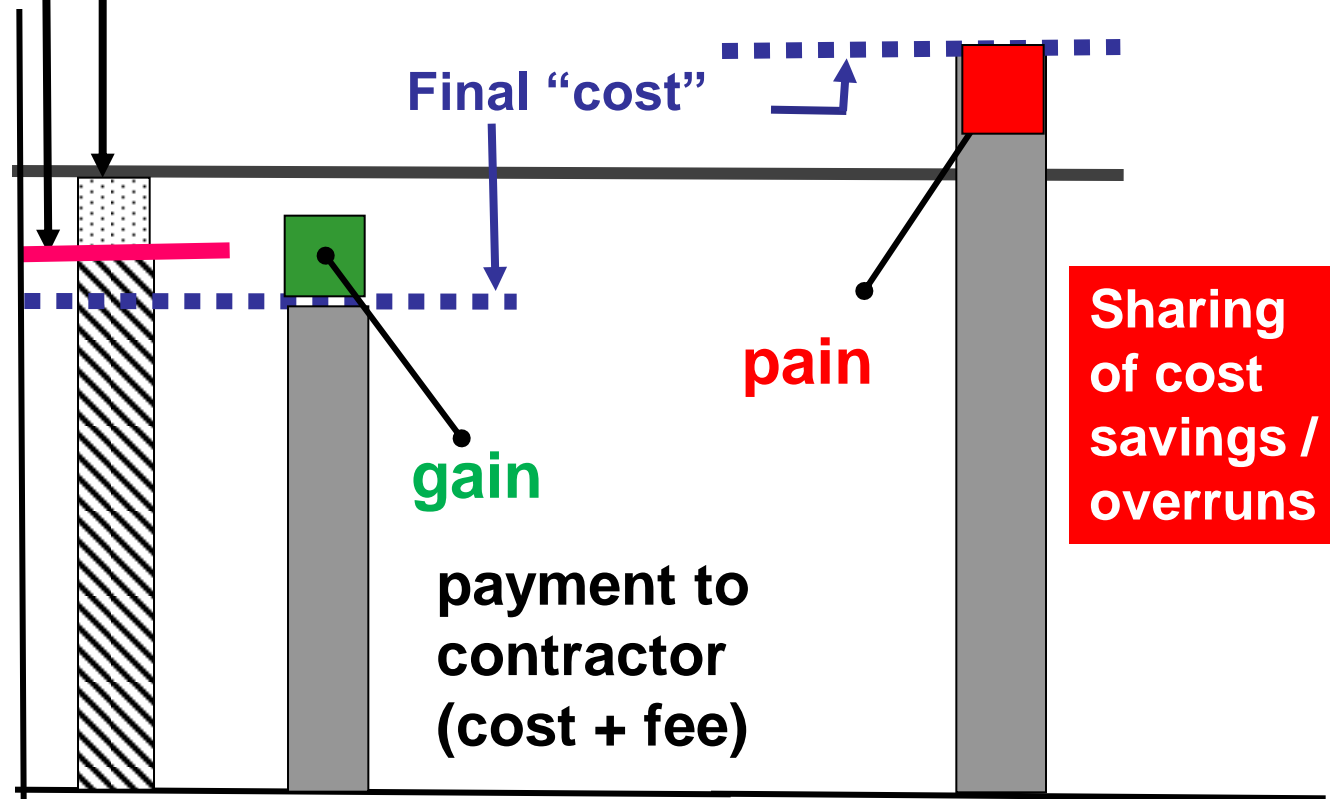
Subcontract costs

Introduction to some key concepts (cont)

Target Cost

Target Price (initial)

Target Price (final) adjusted for compensation events



Scenario 1:
Contractor gain

Scenario 2:
Contractor pain

Introduction to some key concepts (cont)

Consideration	NEC3	JBCC	GCC	FIDIC
Contracting strategy				
Design by employer	Yes	Yes	Yes	Red
Management contract		No	No	Silver
Develop and construct			Yes	Yellow & Silver
Design and build				
Pricing strategy		Lump sum & breakdown		
Activity schedule	Yes	No	No	No
Lump sum		Yes	Yes	Yellow & Silver
Bill of quantities		Yes	Yes	Red
Cost reimbursable		No	No	No
Target cost		No	No	No

Construction Procurement Strategy

A construction procurement strategy is the combination of the following:

- **Delivery management strategy** – eg. Use of PPPs and/or IAs, decide mode of delivery (project or programme), **package works**
- **Contracting arrangements** – eg. Decide on **Contracting Strategy** (eg Design & Build), **Pricing Strategy** (eg. Target Cost), Form of Contract (GCC and JBCC vs **NEC 3 or FIDIC**)
- **Procurement arrangements** – eg. Decide on procurement procedure, targeted procurement strategy, tender evaluation method

A construction procurement strategy can be developed for a single project, a programme of projects or a portfolio of projects **to identify the best way of achieving objectives and value for money**, whilst taking into account risks and constraints.

Construction Procurement Strategy

1 – Delivery Management Strategy



Quality Strategy Options

- Specifications
- Life cycle costing
- Pre-qualification
- Evaluations Criteria
- Undertakings at tender stage
- Preference
- Eligibility Criteria

Procurement Procedure Options

- Competitive selection
- Negotiation
- Competitive negotiation

Targeted Procurement Procedure Options

- Preferencing
- Incentives for KPI's
- Mandatory Subcontracting
- Contractual Obligations

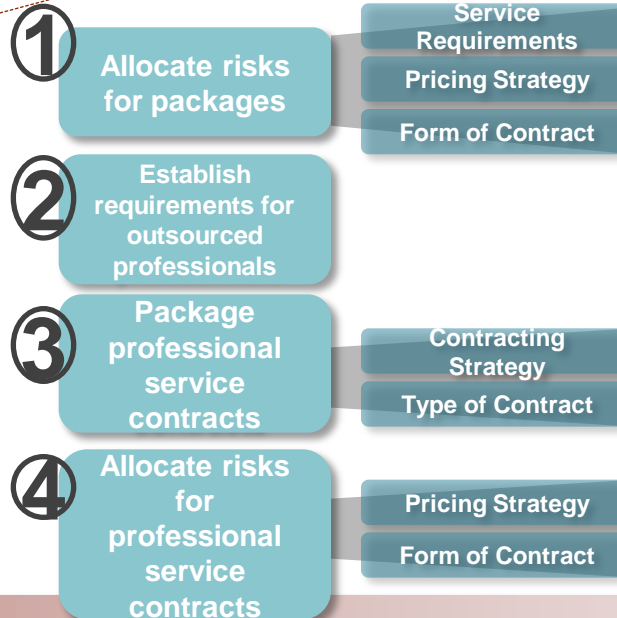
1 Decide on quality strategy

2 Decide on procurement arrangements

3 Decide on targeted procurement strategy

4 Decide on tender evaluation procedure

2 - Contracting Arrangements



Contracting Strategy

- Design by employer
- Develop & Construct
- Design & Construct
- Construction Management
- Management Contractor

Pricing Strategy

- Activity based / Lump sum
- Bill of Quantities
- Cost reimbursable
- Target Cost

Form of Contract

- NEC3
- FIDIC
- JBCC
- GCC 2010

3 - Procurement Arrangements

Quick ‘Live’ demonstration

<http://www.cidb.org.za/default.aspx>

Use of the Toolkit by Municipalities

Can the Toolkit be used by Municipalities?

Broadly speaking, yes

- Although developed primarily with Provincial Government in mind, the **principles are relatively generic** and the system is **based on local and international best practices**
- Very much underpinned by CIDB Act and prescripts – which are **compliant with PFMA and MFMA, and related regulations**

However:

- The Toolkit is not entirely an “off-the-shelf” ready to use product
- It needs to be customised and further developed for specific organisational needs and circumstances
- The PGWC’s approach (as an example):
 - Provincial Cabinet approved **Framework for the WC IDMS – as the Foundation**
 - At an operational level, it is being further refined into a comprehensive and **fully functional set of systems & processes.**
 - **SCM – need a system specifically for Construction Procurement**
- Carried out under the auspices of **IDIP**

Thank you

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