



REPUBLIC OF SOUTH AFRICA

# GITOC

Government Information Technology Officer's Council



# Government Wide Enterprise Architecture (GWEA) Framework v1.2 of South Africa

To

*The Open Group Enterprise Architecture Forum*

By

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*30 June 2009*



**SITA**

stateinformationtechnologyagency

# Agenda

- ❖ Introduction
- ❖ GWEA Framework v1.2
- ❖ Way Forward

*I hear, I forget;  
I see, I remember;  
I do, I understand.  
- Chinese Proverb*

# Part I: Introduction

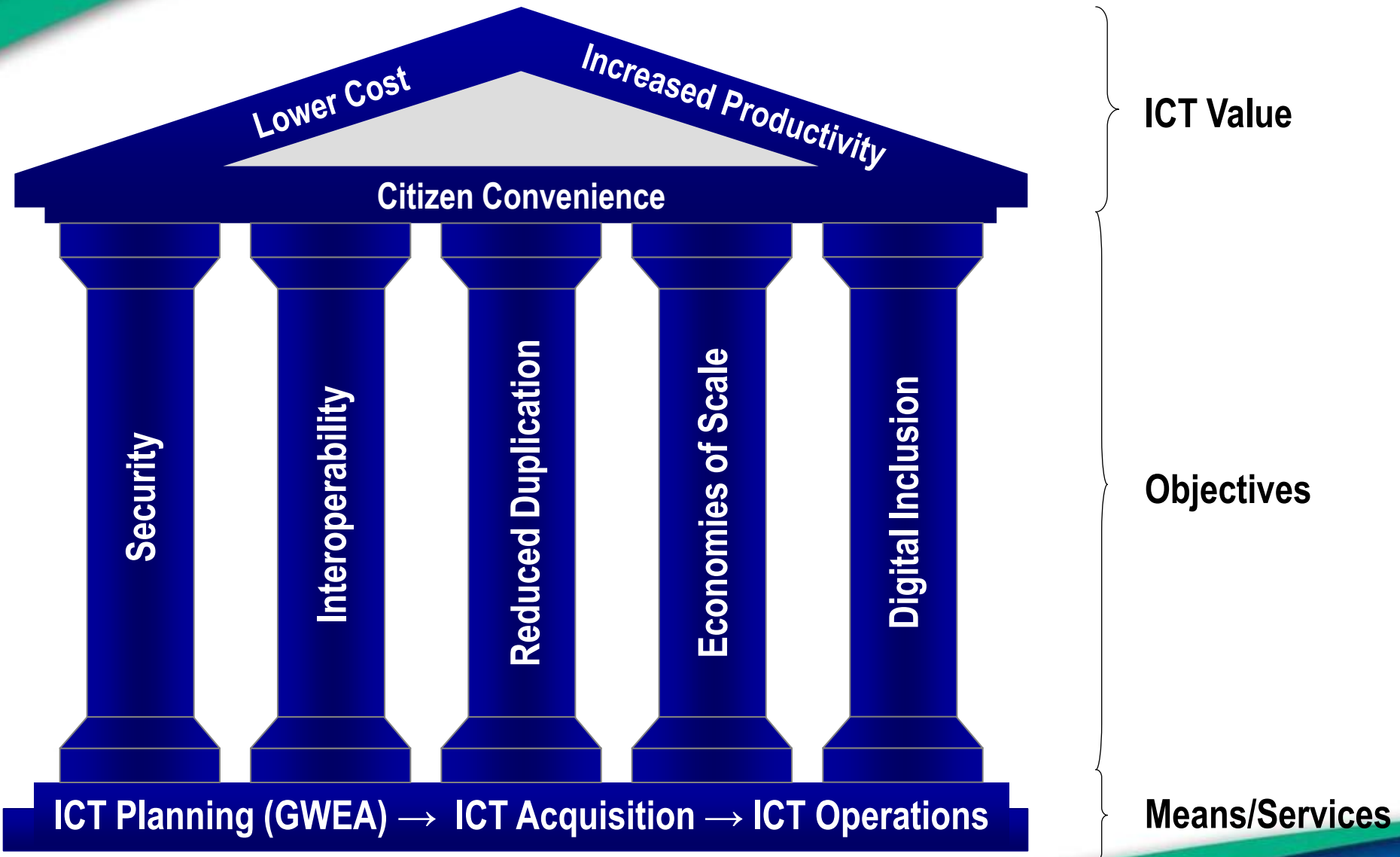
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*"It is astonishing what foolish things one can temporarily believe  
if one thinks too long alone."  
- John Maynard Keynes*

# Regulatory drivers\*

- ❖ Chapter 1, Part III:B – Strategic Planning
  - Define **core objectives**
  - Describe **core and support activities**
  - Specify the **functions** the department will perform.
  - Specify **Performance Monitoring system**.
- ❖ Chapter 1, Part III.C – Service Delivery Improvement
  - Specify the **main services** to customers
- ❖ Chapter 1, Part III.E – Information Planning
  - Establish an **information plan**
  - Establish an **information infrastructure plan**; and
  - Establish an **operational plan** that enables the implementation of the information infrastructure plan and information management.
- ❖ Chapter 5, [e-Government Compliance]
  - Comply with “ICT House of Values”
  - Comply with Minimum Information Security Standard (MISS)
  - Comply with Minimum Interoperability Standards (MIOS)

# Government ICT House of Values\*

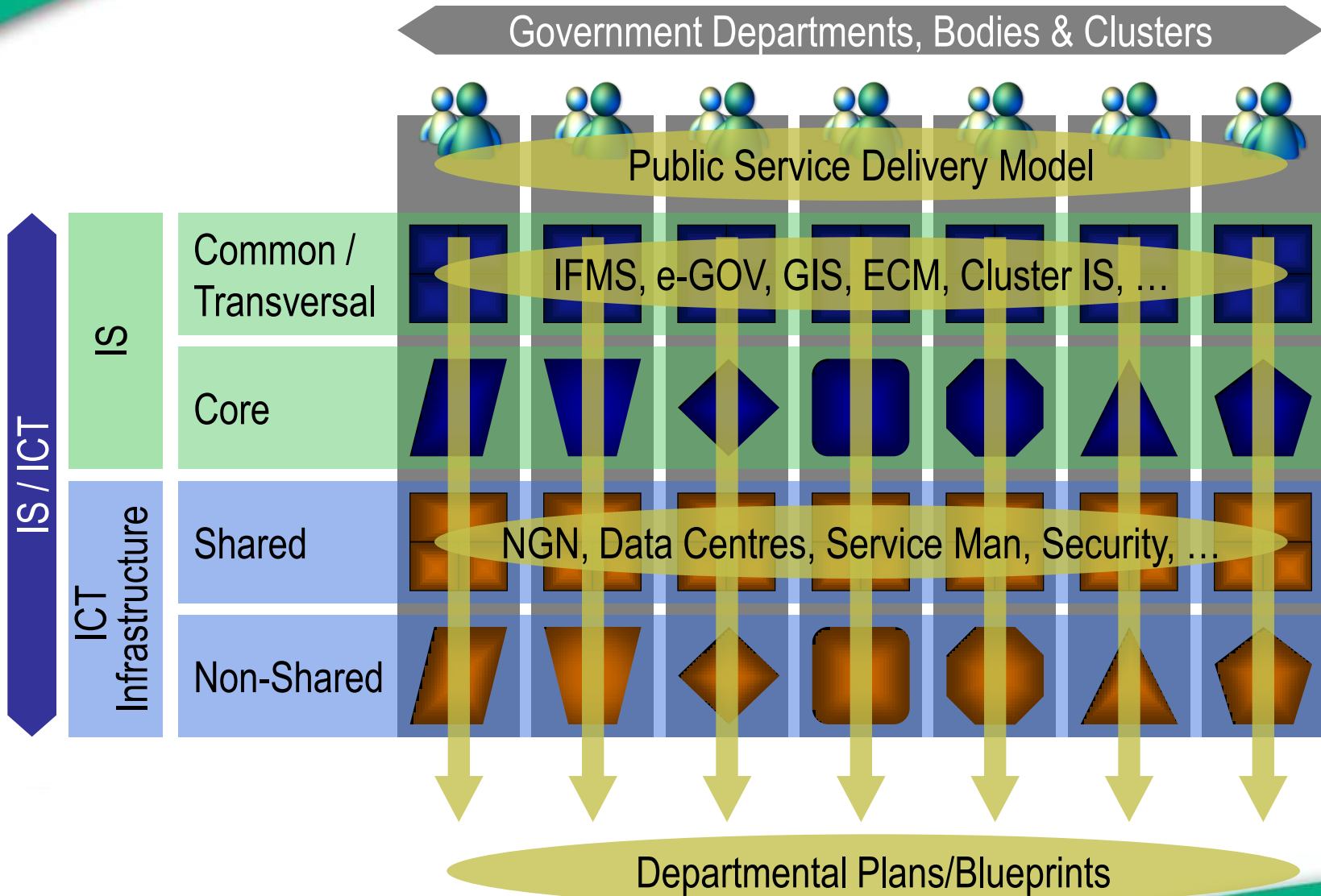


\* From e-Government Policy, SITA Regulations & SITA Act (amended)

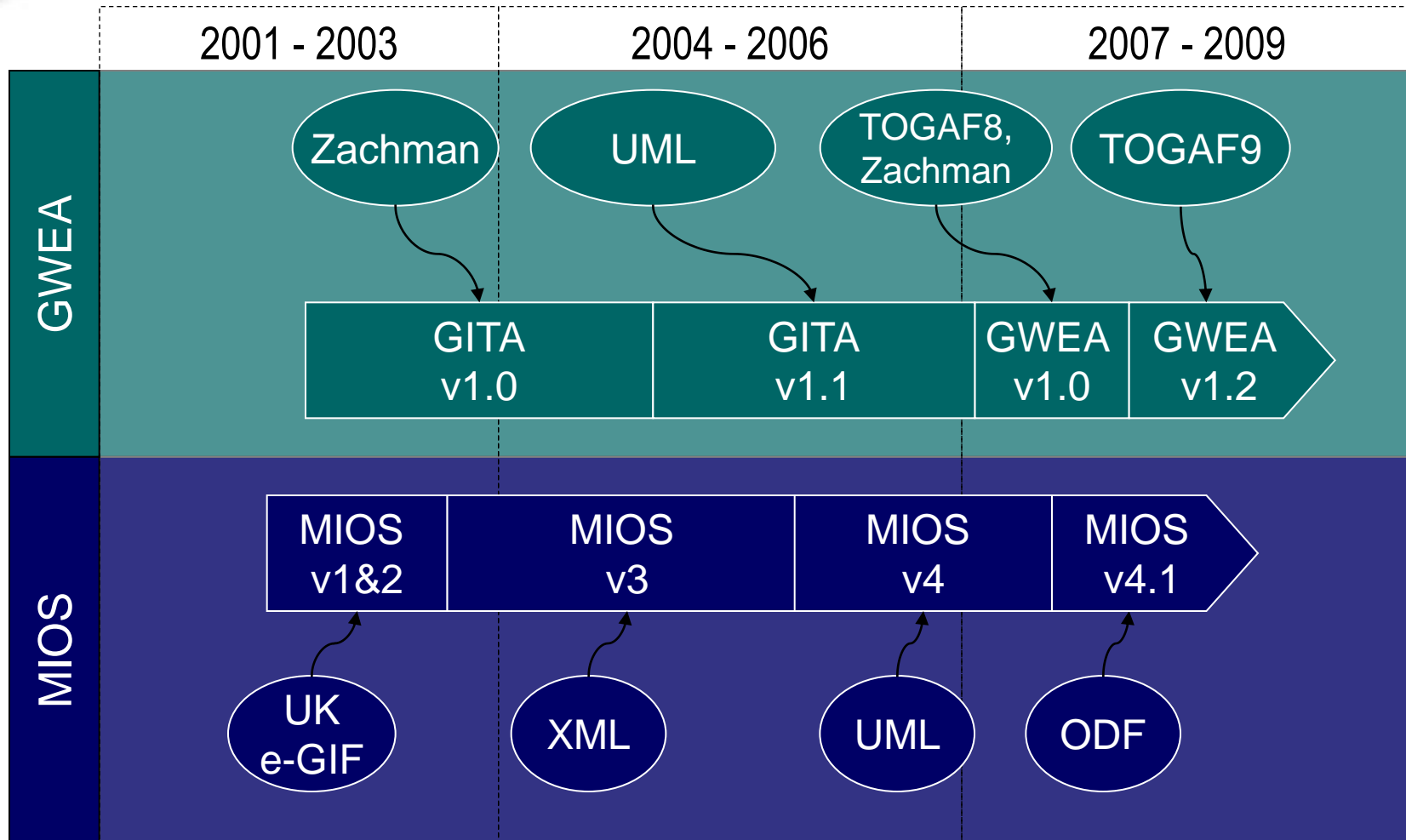
# Challenges

- ❖ Inconsistent and non-standard planning frameworks.
- ❖ Use of different notations and varying levels of details in plans submitted by departments.
- ❖ Problems for SITA and DPSA to certify plans using a consistent and government wide accepted framework.
- ❖ Government unable to integrate services as a result.
- ❖ Costly Systems development and rampant duplication.
- ❖ Low organizational maturity and stagnant service improvement.

# Planning Challenge



# MIOS / GWEA Product Evolution





# GWEA 1.2 Development

- ❖ Feb 07: GWEA 1.0 (internal)
- ❖ Nov 07: SCARC adopted TOGAF-8
- ❖ Feb 08: GITOC accepted TOGAF-8
- ❖ Jun 08: SCARC → GWEA 1.1 (internal)
- ❖ Aug 08: GOVTECH → Test TOGAF decision
- ❖ Aug 08: GITOC accepted GWEA 1.1 (internal)
- ❖ Sep 08: SCARC → GWEA 1.2 to align with TOGAF-9
- ❖ Feb 09: SCARC → Accepted GWEA 1.2
- ❖ Mar 09: GITOC WS → Accepted GWEA 1.2
- ❖ Jun 09: GITOC Endorsed

## Part II: GWEA Framework 1.2

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*“Everything should be made as simple as possible, but not simpler.”  
- Albert Einstein.*

# Architecture in Context\*

COBIT / ISO38500

GWEA / MIOS

ISO12207 (SDLC)

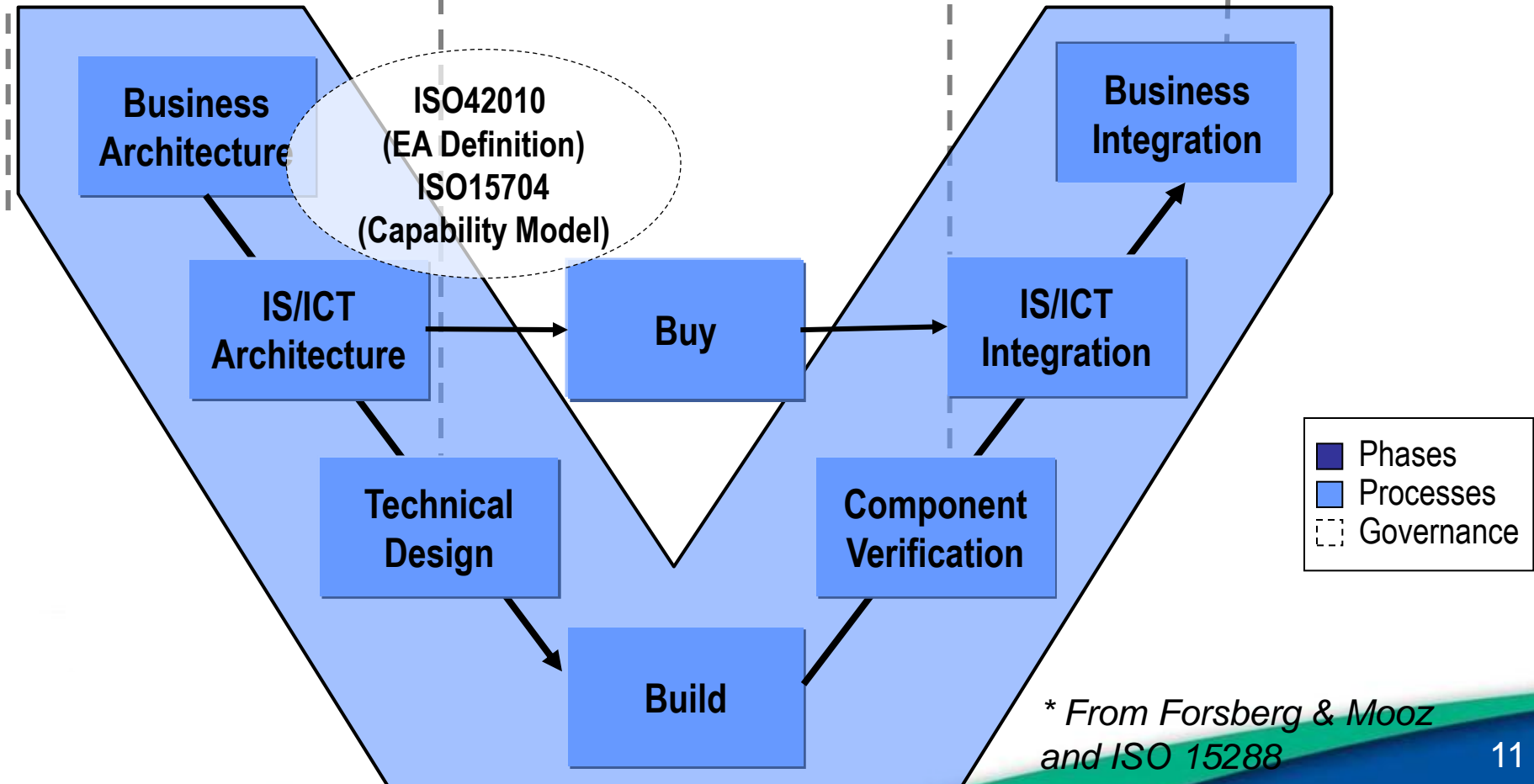
ITIL

Architecture / Planning

Design / Development

Production

Operation



\* From Forsberg & Mooz  
and ISO 15288

# An EA Capability/Function

## ❖ EA Process

- EA Development Process
- EA Logic (Meta-Model of deliverables)
- EA Methods (Techniques, Notation)

## ❖ EA People

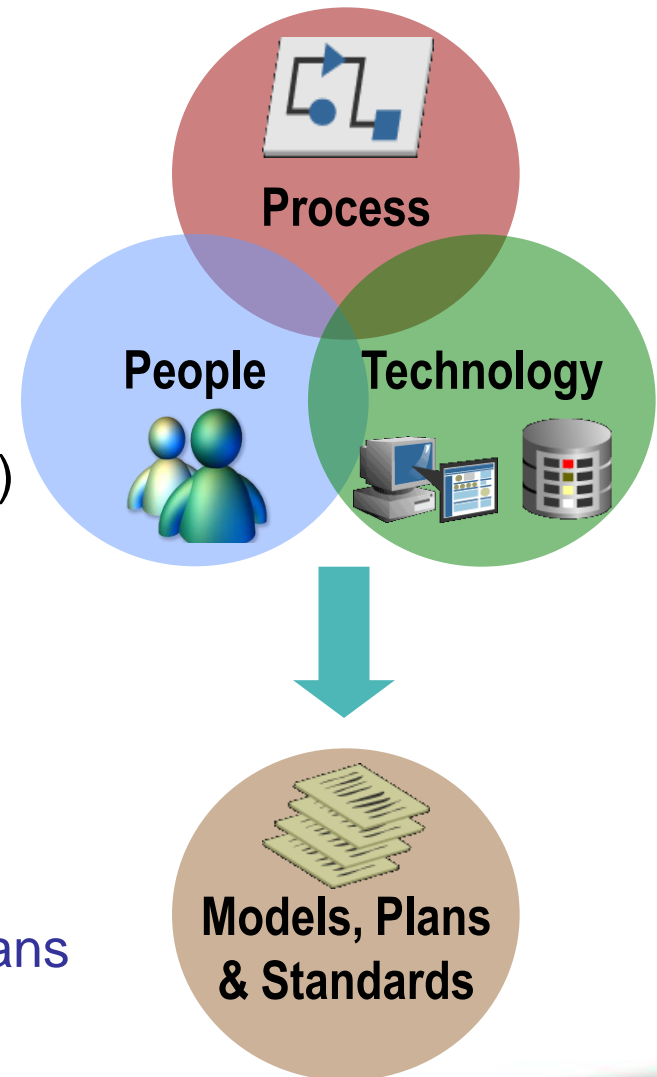
- Governance structures
- Roles & Responsibilities (RACI Charts)
- Competencies

## ❖ EA Information System {EA Tools}

- Planning & Modelling Software
- EA Data Repository
- ICT Infrastructure

## ❖ EA Deliverables

- EA Reference Models / Blueprints / Plans
- Interoperability Standards



# TOGAF-9 (8 Parts, 52 Chapters, 744p)

**Architecture Capability Framework (Part VII)**

**People**  
(Skills, Certification, Roles, Governance, Structures)

**Architecture Development Method (Part II)**

**ADM Guidelines & Techniques (Part III)**

**Process**  
(Methods, Steps, Techniques)

**Architecture Content Framework (Part IV)**

**Outputs/Deliverables**  
(Diagrams, Models, Viewpoints, Matrices, Catalogues, Tables)

**Enterprise Continuum & Tools (Part V)**

**TOGAF Reference Models (Part VI)**

**Technologies**  
(Tools, Reference Models, Standards)

**NEW in TOGAF-9**

# GWEA 1.2 Purpose & Applicability

## ❖ Purpose

- To define the **minimum standard** by which to use an Enterprise Architecture approach to develop and construct National and Departmental **ICT Plans and Blueprints** in the Government of South Africa.

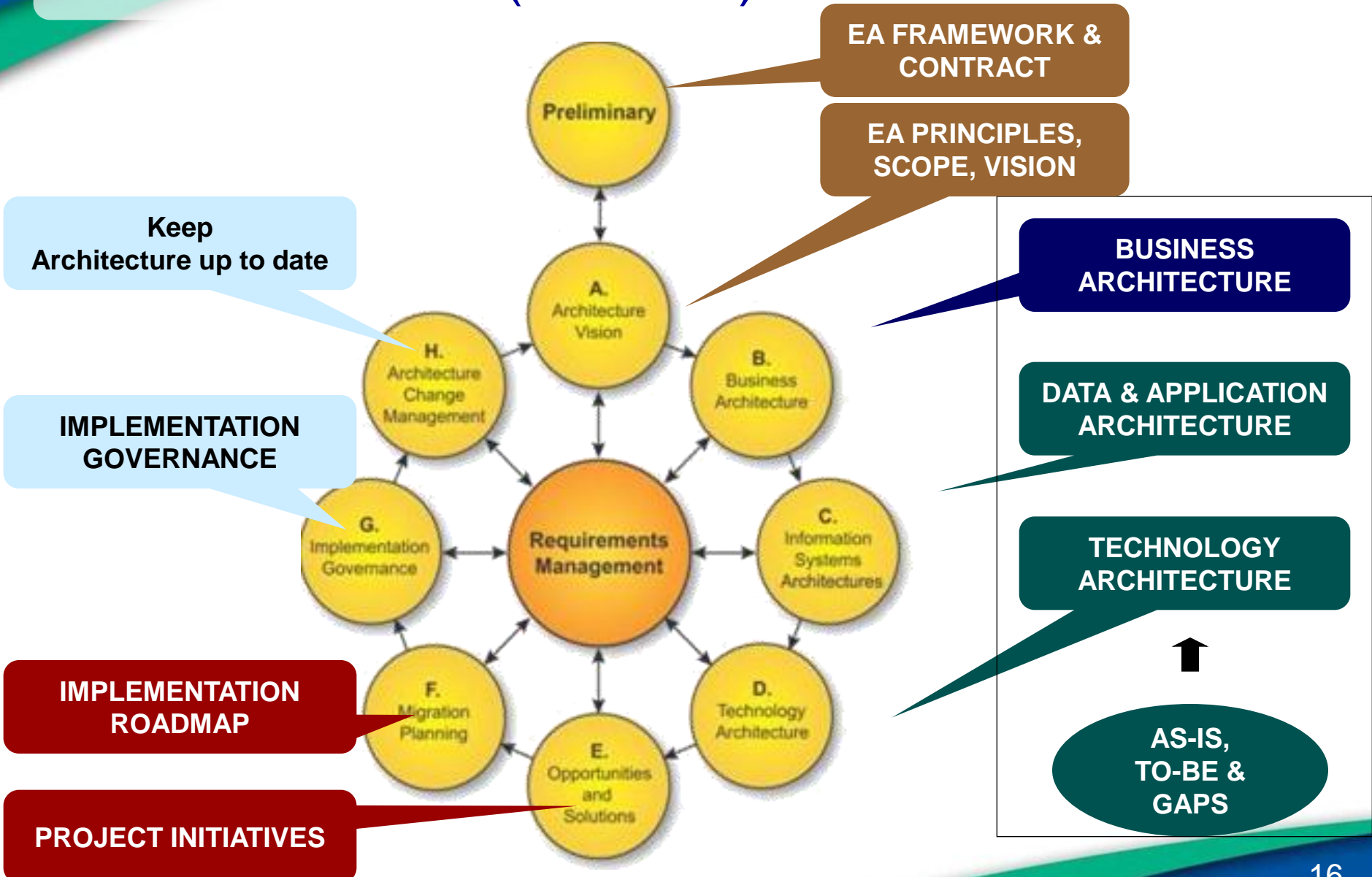
## ❖ Applicability

- to all **public and private** entities that engage in an Enterprise Architecture Planning programme for or on behalf of the Government of South Africa.

# Participants

No	Name	Representing Department	Core Team
1.	Mr J. Weir-Smith	Dept of Agriculture	
2.	Mr S. Phala	Dept of Arts & Culture	
3.	Mr W. Nkadimeng	Dept of Communications	
4.	Col G. Barnard	Dept of Defence	Yes
5.	Mr J. Opperman	Dept of Defence	Yes
6.	Mr A. Raubenheimer	Dept of Education	
7.	Mr H. Barnard	Dept of Education	
8.	Mr N. Mabaso	Dept of Home Affairs	Yes
9.	Mr D. Moodley (Deputy-Chairman)	Dept of Justice	
10.	Mr A. Raffee	Dept of Science & Technology	
11.	<b>Mr. J Segole (Chairman 2008)</b>	<b>Dept of Social Development</b>	<b>Yes</b>
12.	<b>Mr. B Dediza (Chairman 2009)</b>	<b>Dept of Transport</b>	<b>Yes</b>
13.	Ms S. Khosa	Dept Public Service & Administration	
14.	Mr Z. Aboobaker	Dept Public Service & Administration	
15.	Mr M. Serero	Presidential National Commission	
16.	Mr L. Kumbemba	SA Local Government Association	
17.	Mr G. Botha	SA Police Service	Yes
18.	Mr D. Vela	SA Post Office	
19.	Mr V. John	SITA	Yes
20.	<b>Mr W. Needham (Chief Architect)</b>	<b>SITA</b>	<b>Yes</b>
21.	Mr J. Liebenberg	SITA	Yes

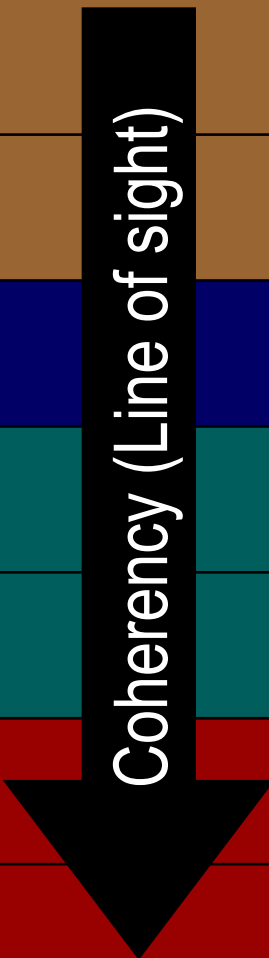
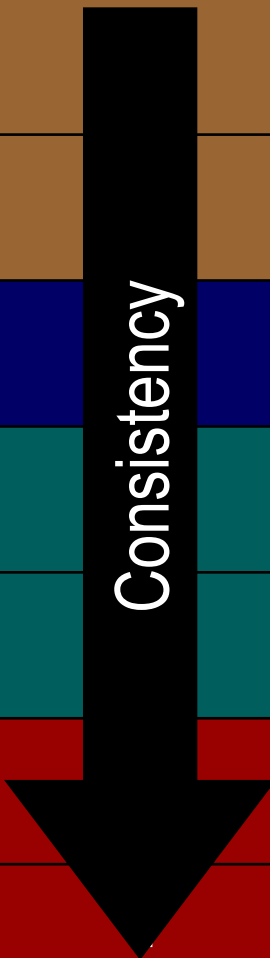
# GWEA Process (TOGAF)\*



\* Accepted by the GITOC SCARC in Nov 2007, GITOC in Apr 2008



# EA Deliverable definition & notations

TOGAF ADM Process	Deliverable Definition	Deliverable Notation
Prelim FW & Contract	 Coherency (Line of sight)	 Consistency
A: Architecture Principles, Vision & Scope		
B: Business Architecture		
C: Information System Architecture		
D: Technology Architecture		
E: Opportunities & Solutions		
F: Migration Planning		

# TOGAF-9 vs GWEA Deliverables

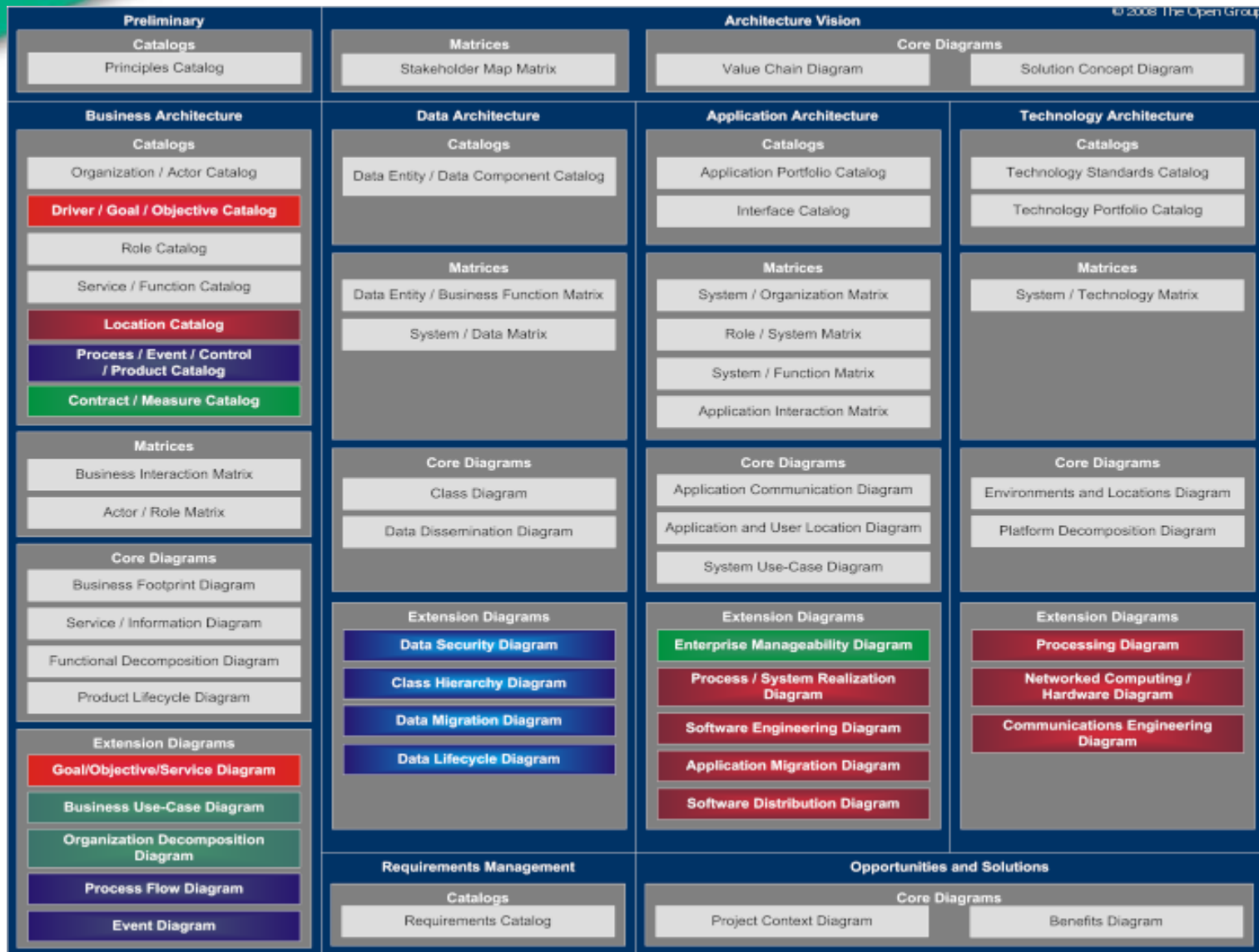
TOGAF ADM Phase	TOGAF-9	GWEA 1.0	GWEA 1.2
Prelim: FW & Contract	5P+1A	-	3P
A: Vision, Scope & Principles	6P+2A	-	3P+1A
B: Business Architecture	3P+(2x17)A	(2x27)A	2P+(2x5)A
C1: Data Architecture	3P+(2x9)A	(2x2)A	2P+(2x3)A
C2: Application Architecture	3P+(2x14)A	(2x3)A	2P+(2x3)A
D: Technology Architecture	3P+(2x8)A	(2x2)A	2P+(2x3)A
E: Opportunities/Solutions	5P	-	1P
F: Migration Planning	10P	2P	2P
<b>TOTAL DELIVERABLES</b>	<b>38P+99A = 137</b> (89 Non-Duplicated)	<b>2P+68A = 70</b> (36 Non-Duplicated)	<b>17P+29A = 46</b> (32 Non-Duplicated)

P = Project Deliverables (e.g. Charters, Contracts, Analysis Reports, Schedules)

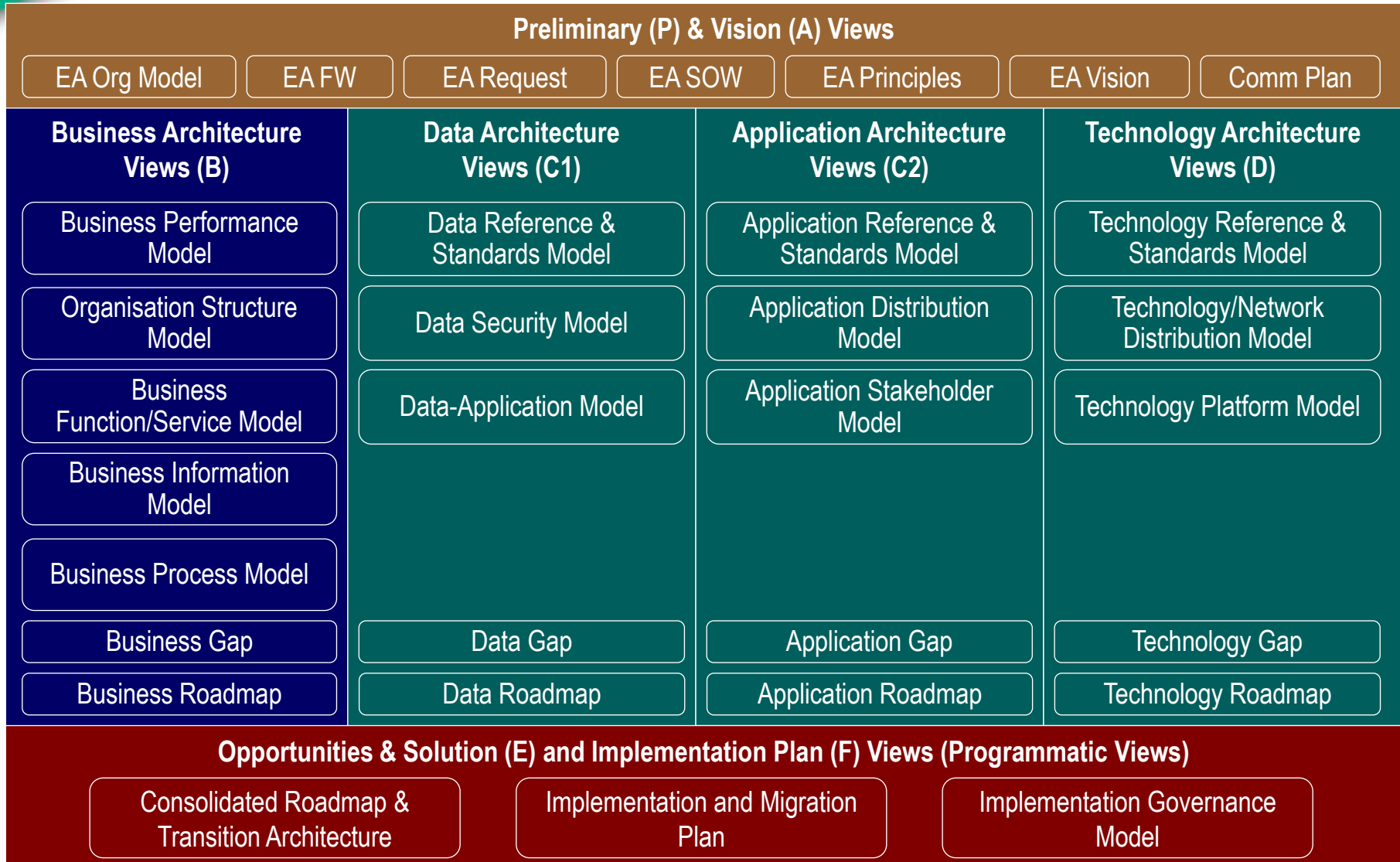
A = Architecture Deliverables (e.g. Models, Diagrams, Matrices, Catalogues)

Non-Duplicated = As-Is or To-Be models of the same format

# TOGAF-9 Architecture Deliverables



# GWEA 1.2 Deliverables



# GWEA Deliverable Notations

<b>GWEA Deliverable</b>	<b>Notation Standard*</b>
<b>Prelim: FW &amp; Contract</b>	<b>Text, Catalogue</b>
<b>A: Vision, Scope &amp; Principles</b>	<b>Text, Catalogue</b>
<b>B: Business Architecture</b>	<b>Text, Catalogue, UML, Nested-Box, IDEF0, BPMN</b>
<b>C1: Data Architecture</b>	<b>Text, Catalogue, UML, Nested-Box</b>
<b>C2: Application Architecture</b>	<b>Text, Catalogue, UML, Nested-Box</b>
<b>D: Technology Architecture</b>	<b>Text, Catalogue, UML, Nested-Box, Network</b>
<b>E: Opportunities/Solutions</b>	<b>Text, Catalogue</b>
<b>F: Migration Planning</b>	<b>Text, Catalogue</b>

Text = Multimedia (text and graphs)

Catalogue = Lists, Matrices, Catalogues

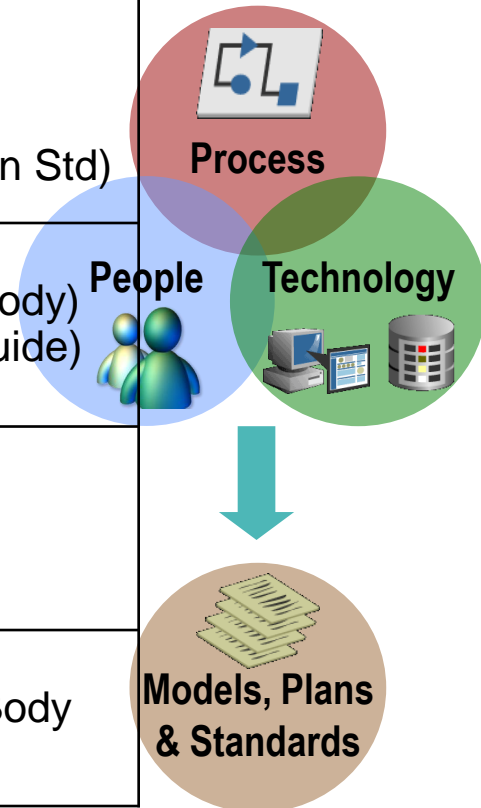
\* Not in TOGAF-9

# Summary

- ❖ TOGAF-9 is [too] comprehensive and inclusive and is subject to improvement over time → SA Government needs a minimum standard.
- ❖ GWEA Framework 1.2 is aligned with International Best Practice. This will enable:
  - Independent Certification of Architects.
  - More TOGAF compliant EA Toolsets to choose from.
- ❖ Because GWEA Framework 1.2 is a standard, it will promote conformity and consistency across all departments; and it can be used as basis for Certification & Validation.

# GWEA Framework Status

EA Capability Area	Status
<b>EA Process</b> EA Development Process EA Logic (Meta-Model) EA Methods (Techniques, Notation)	<ul style="list-style-type: none"> <li>● (TOGAF ADM)</li> <li>● (Implied in GWEA FW 1.2)</li> <li>● (TOGAF-9 + GWEA Notation Std)</li> </ul>
<b>EA People</b> Governance structures Roles & Responsibilities Competencies	<ul style="list-style-type: none"> <li>● (Constitute EA Governing Body)</li> <li>● (To be in Implementation Guide)</li> <li>● (Through Training Tender)</li> </ul>
<b>EA Information System {EA Tools}</b> Planning & Modelling Software EA Data Repository ICT Infrastructure	<ul style="list-style-type: none"> <li>● (Through EA Tools Tender)</li> </ul>
<b>EA Deliverables</b> EA Reference Models / Plans Interoperability Standards	<ul style="list-style-type: none"> <li>● Validated through EA Gov Body</li> <li>● Update the MIOS</li> </ul>



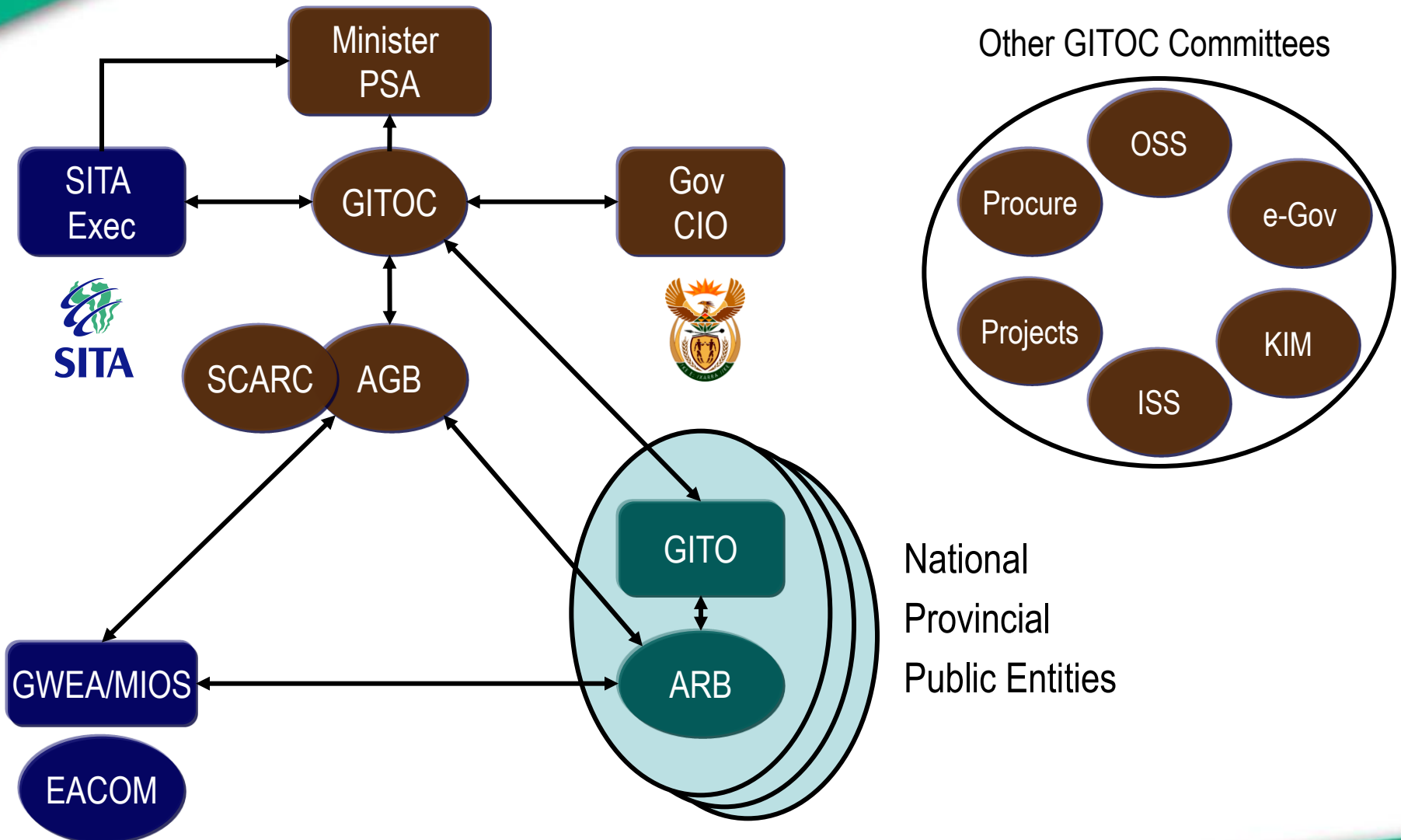
## Part III: Way Forward

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*"What lies behind us and what lies before us  
are small matters compared to what lies within us."  
- Ralph Waldo Emerson*



# GWEA Governance Structure (draft)



AGB = Architecture Governing Board (Central)

ARB = Architecture Review Board/Committee (Departmental)

# Way Forward

- ❖ Promulgate GWEA Framework 1.2 as minimum standard by Minister.
- ❖ Enable the implementation of the GWEA Framework
  - Develop GWEA Framework Implementation Guidelines (e.g. co-existence or replacement of Master System Plan process, IT Planning guidelines; responsibility guide; deliverable templates, samples).
  - Establish transversal tender for TOGAF-9 Training.
  - Establish transversal tender for EA Toolset.
  - Establish GWEA Knowledge Base (web-site; repository)
- ❖ Develop GWEA Principles.
- ❖ Constitute GWEA Governing Body to coordinate validation and compliance with GWEA Framework.
- ❖ Validate Departmental EA work against GWEA.



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# Thank You

*“Although our intellect always longs for clarity and certainty,  
our nature often finds uncertainty fascinating.”*

*- Clausewitz*



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