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UNITED NATIONS  
COMMITTEE OF EXPERTS ON  
GLOBAL GEOSPATIAL  
INFORMATION MANAGEMENT



Geo-Enabling the Global Village :

No one should be left behind

Operationalizing the UNGGIM-IGIF  
in the United Arab Emirates

# Content

- IGIF used as framework for UAE NSDI establishment
- Preparatory work
- Data Inventory, Assessment and Gap Analysis
- Program Design
- Implementation plan

IGIF used as framework for UAE NSDI establishment



## Geo-Enabling the Global Village :No one should be left behind



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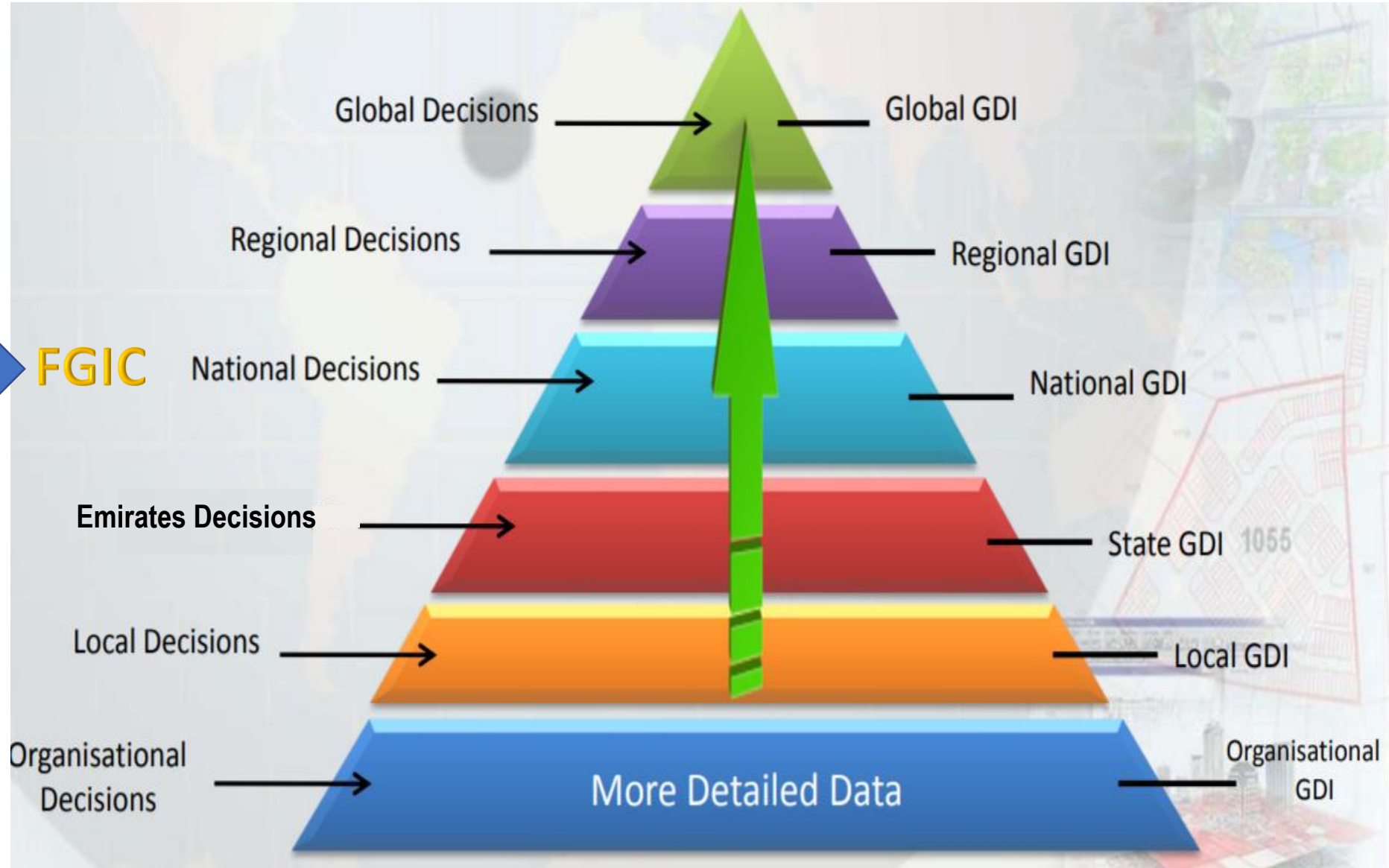
# UAE-NSDI in the multi-level SDI structure

In 2019 The Leadership in the UAE established the Federal Geographical information Center (FGIC)

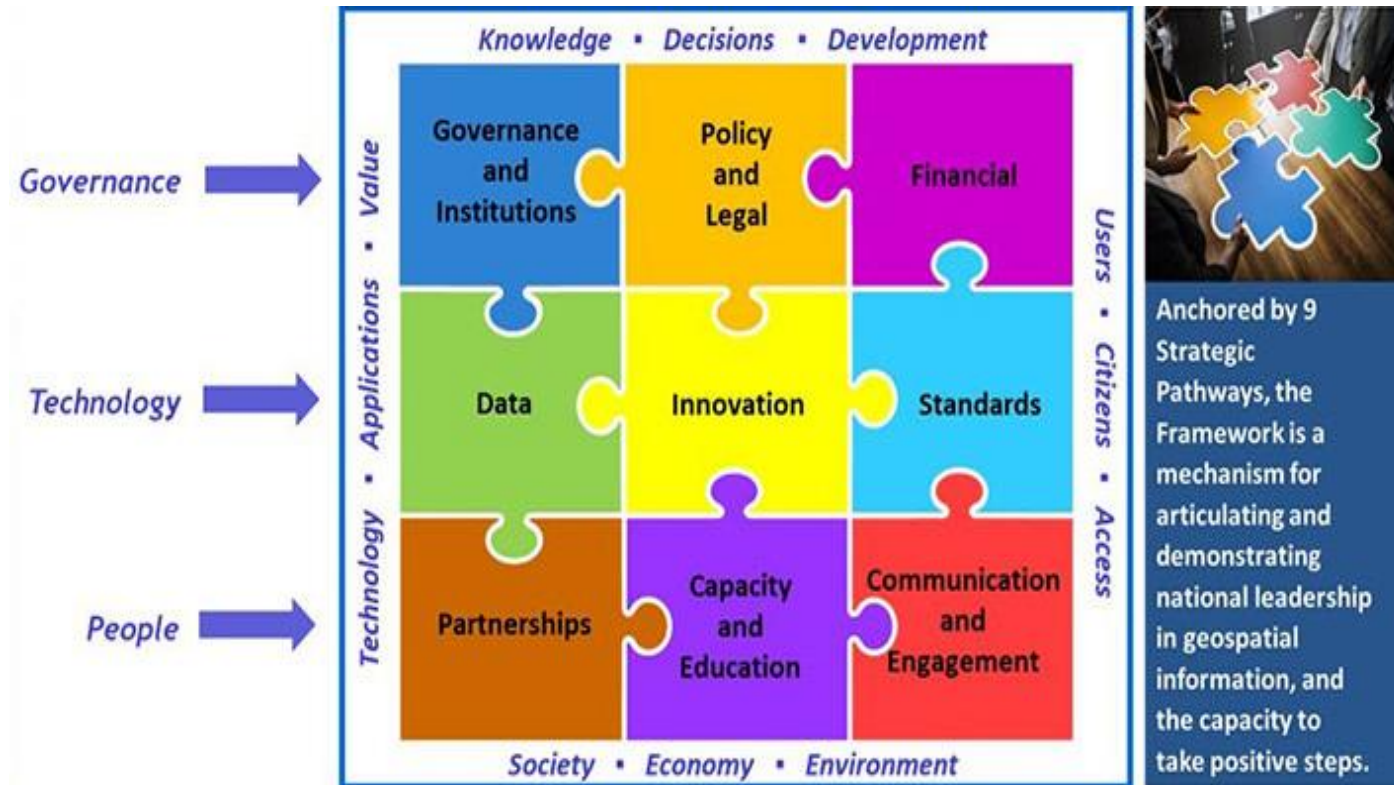
FGIC main Objective is to establish the UAE national SDI by leveraging the local SDI's and Organize the sector at the national level



**FGIC**



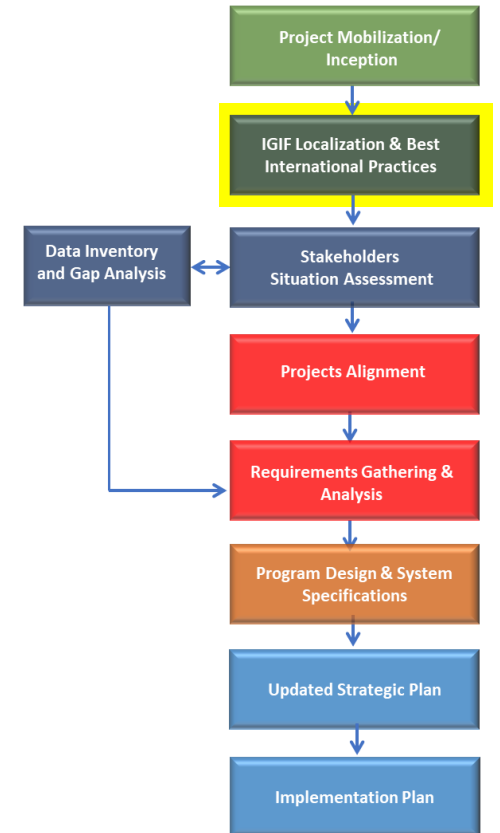
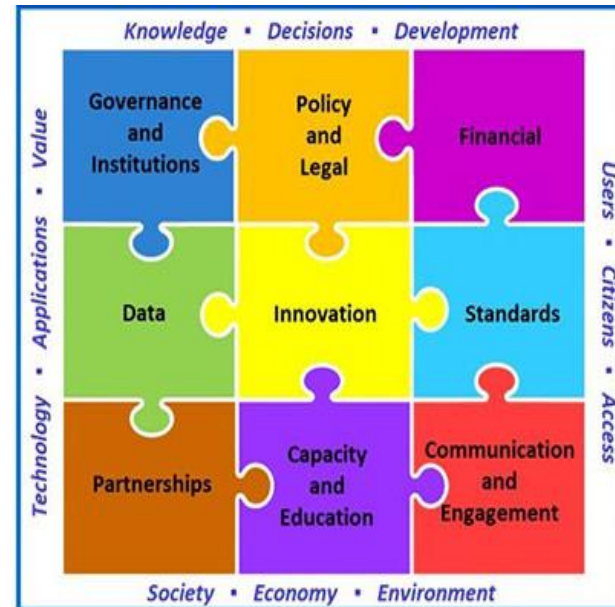
# IGIF used as framework for the UAE NSDI



**The technical framework for SDI consists of: the elements shown in the Integrated Geospatial Information Framework (IGIF), which are interrelated and inseparable**

# IGIF Localization & Best International Practices

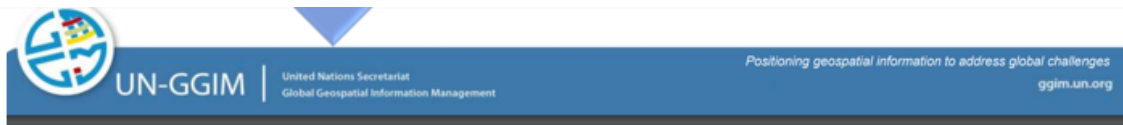
- Assessed all the IGIF pathways elements
- Identified the Elements that are most relevant and important the UAE
  - Policies and legislations
  - Data
  - Technologies
  - Capacity building
  - Identified elements that are to be adapted locally:
    - Governance adapted to the constitutional specificities of the UAE
    - Concept of open data also
    - ...





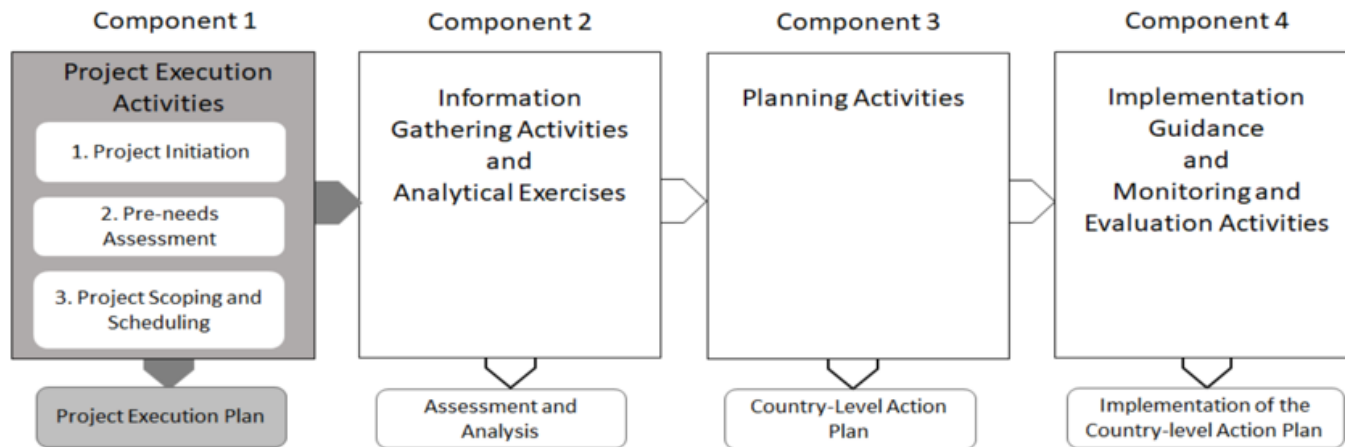
# UAE NSDI project implementation Approach

## UNGGIM Country level action Plan

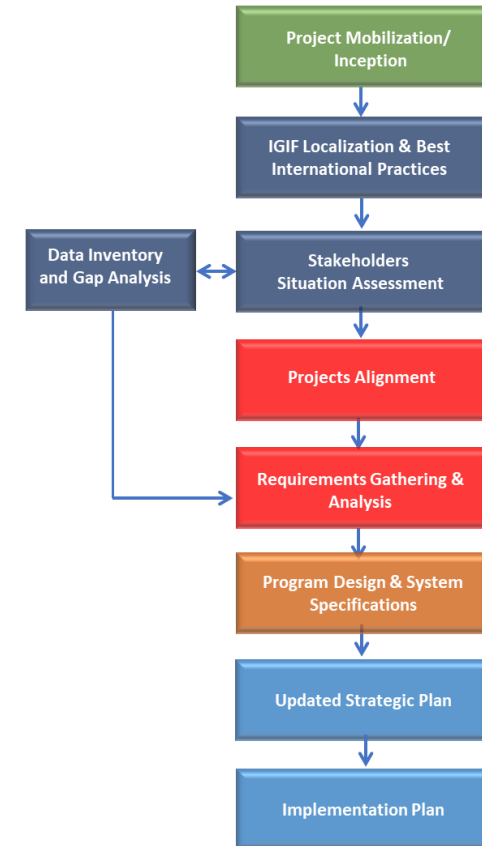


### IGIF: Country-level Action Plans (CAPs)

#### Component 1 – Project Execution



## FGIC implementation approach





Preparatory work

# Preliminary Road map study and launch of Study and Design Project

- Conducted a preliminary Desktop study
- Conducted exploratory meetings with 7 key entities
- Assessed the preliminary needs
- Issued an RFI and Consulted Specialized Companies
- Defined the project scope and Prepared the project RFP
- Awarded and Launched the UAE NSDI Study and Design project in December 2020

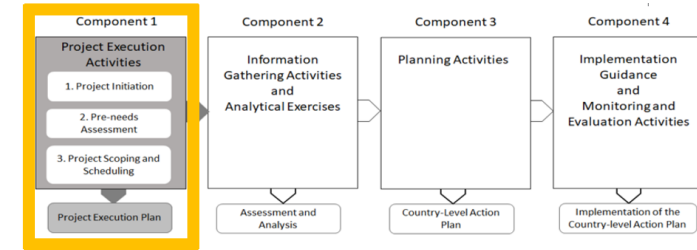
Desktop Study and RFI's

Entities Visits

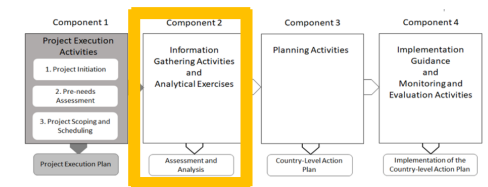
Preliminary road map

RFP preparation

Project award and Launch



# Preparation of stakeholder engagement plan

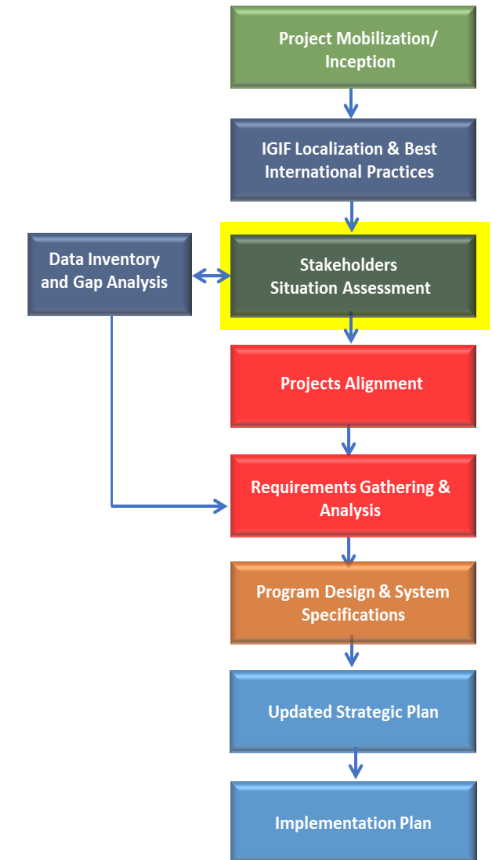
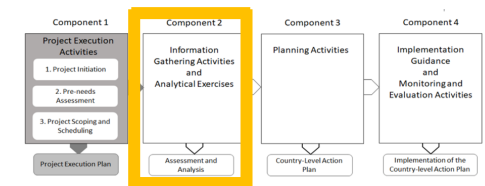


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# Stakeholder Situation Assessment

- Conducted an orientation seminar for around **100** entities
- Direct interviews of **52** entities through direct meetings
- Carried survey of **28** tier2 entities via emails and other communications
- Assessed current situation across key stakeholders understanding their needs and readiness for participation in NSDI



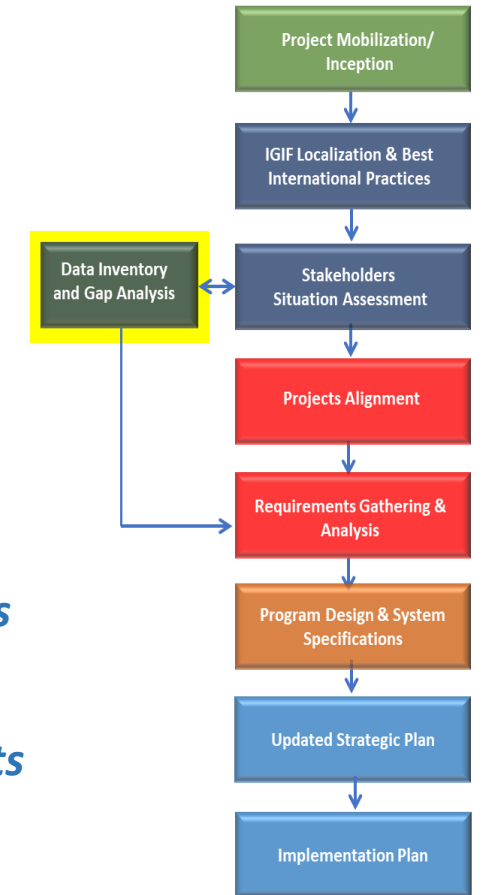
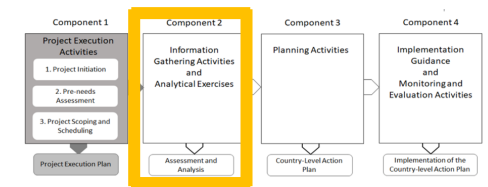
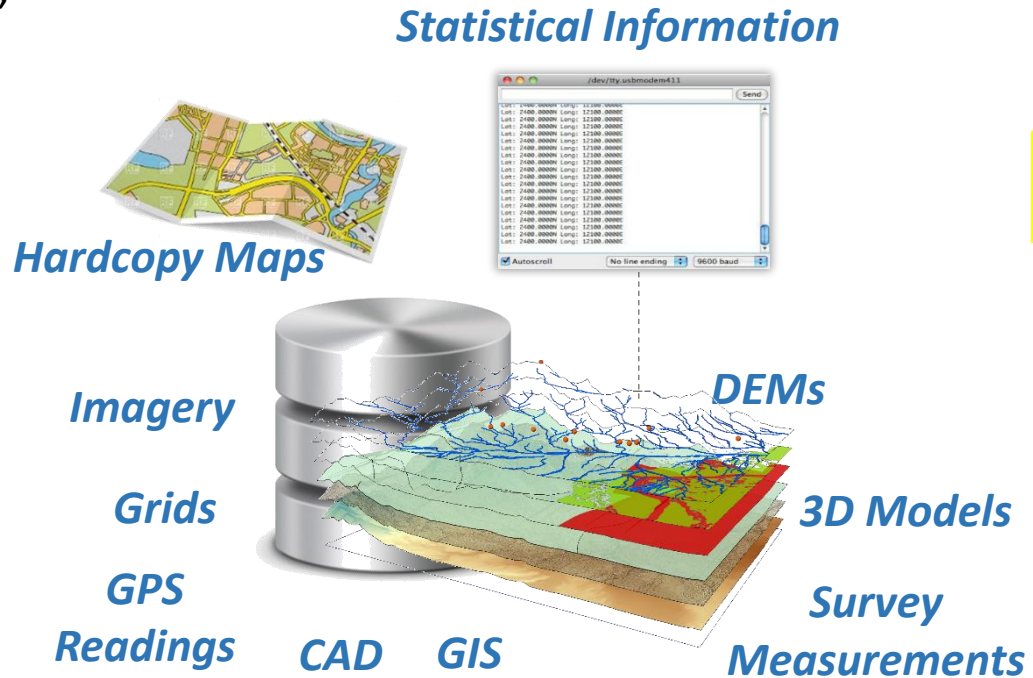
# Data Inventory, Assessment and Gap Analysis

# Data Inventory & Assessment

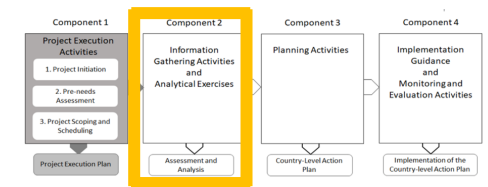
- Carried out Detailed Inventory of existing data of use to NSDI and assessed issues, opportunities or constraints that may impact its use.



- Developed a high-level plan for data acquisition and harmonization of each fundamental data layer.



# Data Inventory & Gap Analysis



## Data Inventory Database - Basic inventory of geospatial data generated by each agency

### Fields of information contained in the Data Inventory Form

- ✓ Organizational Identifier
- ✓ Document Set #
- ✓ Document Set Name
- ✓ Document Set Description
- ✓ Metadata Catalog Information
- ✓ Data Format
- ✓ Data Source
- ✓ Time Currency
- ✓ Update Frequency
- ✓ Accuracy
- ✓ Conditions of Use
- ✓ Compilation History
- ✓ Map Extent – map data only
- ✓ Availability or Document Set
- ✓ Original Purpose of Document Set
- ✓ Referenced Data Objects or Features
- ✓ Class of Data Object or Features
- ✓ Sub-Class of Data Object or Feature Topic
- ✓ Geographic Scale – map data only
- ✓ Geographic Projection – map data only
- ✓ Vertical Geographic Datum – map data only
- ✓ Horizontal Geographic Datum – map data only
- ✓ Geographic Coverage – map data only
- ✓ Comments Regarding Document Set, Usage, etc.

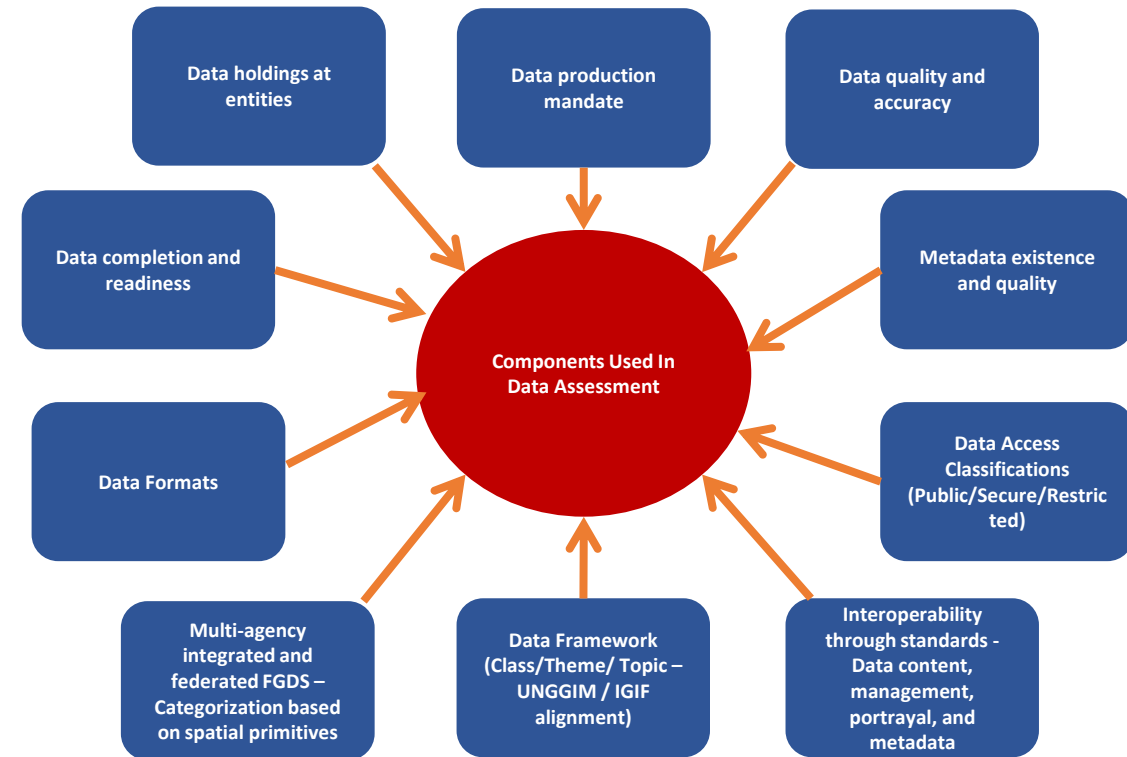
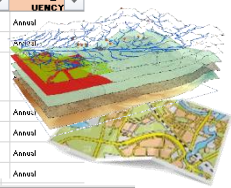
ADMIN_L1	ADMIN_L2	ADMIN_L3	DOC_SET_NAME	DESCRIPTION
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	Country	This feature class is derived from multiple data sets within the administrative boundary dataset for UAE. This feature class represents the administrative boundaries within the UAE in polygon format.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	District	This feature class represents the administrative boundaries within the UAE in polygon format.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	Emirate	This feature class represents the administrative boundaries within the UAE in polygon format.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	Municipality	This feature class represents the administrative boundaries within the UAE in polygon format.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	Sub-district	This feature class represents the administrative boundaries within the UAE in polygon format.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	School	This feature class represents the education dot point locations.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	University	This feature class represents the education dot point locations.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	Higher Education	This feature class represents the education dot point locations.
Federal Competitiveness & Statistics Centre (FCSC)	National Statistics & Data Sector	Federal of Data Department	Distance Education Plan	This feature class represents the education dot point locations.

FORMAT	SOURCE	CURRENT	UPDATE FREQUENCY
Digital-Vector	Abu Dhabi Digital Authority	W	En
Digital-Vector	Abu Dhabi Digital Authority - ADDA	W	En
Digital-Vector	Abu Dhabi Digital Authority - ADDA	G	En
Digital-Vector	Dubai Municipality	G	En
Digital-Vector	Sharjah Planning Survey Department	S	En
Digital-Vector	Abu Dhabi Digital Authority - ADDA	W	En
Digital-Vector	Abu Dhabi Digital Authority - ADDA	G	En
Digital-Vector	Abu Dhabi Digital Authority - ADDA	W	En
Digital-Vector	Dubai Municipality	G	En
Digital-Vector	Ministry of Education	C	En
Digital-Vector	Ministry of Education	G	En

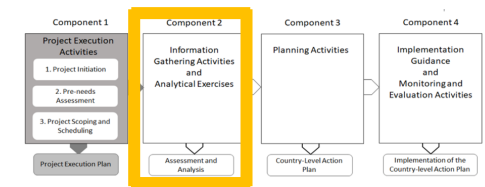
  

FEATURES	AI	PG	CI	IT	COMMENTS	COMPILATION_HISTORY
National Boundary	Available				The attributes for the feature include: Data Source, Created By, Created Date, Modified Date, Modified By, Arabic Name, English Name, Feature ID, Boundary.	Population Statistics for the nation are to the Country boundary. FCSC data o The FCSC has organized administrative boundaries top-down in the order of co The FCSC has organized administrative boundaries top-down in the order of co
District Boundary	Available				The attributes for the feature include: Data Source, Created By, Created Date, Modified Date, Modified By, Arabic Name, English Name, Feature ID, Boundary.	
Emirate Boundary	Available				The attributes for the feature include: Data Source, Created By, Created Date, Modified Date, Modified By, Arabic Name, English Name, Feature ID, Boundary.	
Municipality Boundary	Available				The attributes for the feature include: Data Source, Created By, Created Date, Modified Date, Modified By, Arabic Name, English Name, Feature ID, Boundary.	





# Data Inventory & Gap Analysis



## Data Taxonomy

Data is classified using a standard taxonomy that ensured all fundamental geospatial data layers were addressed both by user needs and international best practice (IGIF Data Pathway).

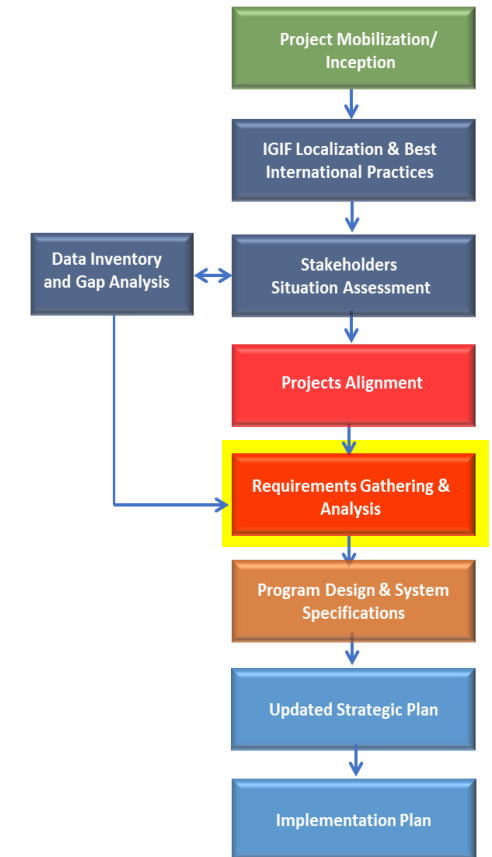
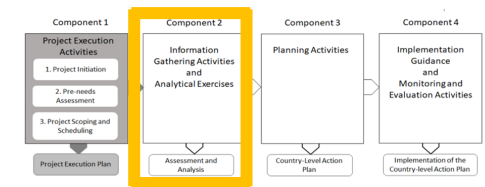
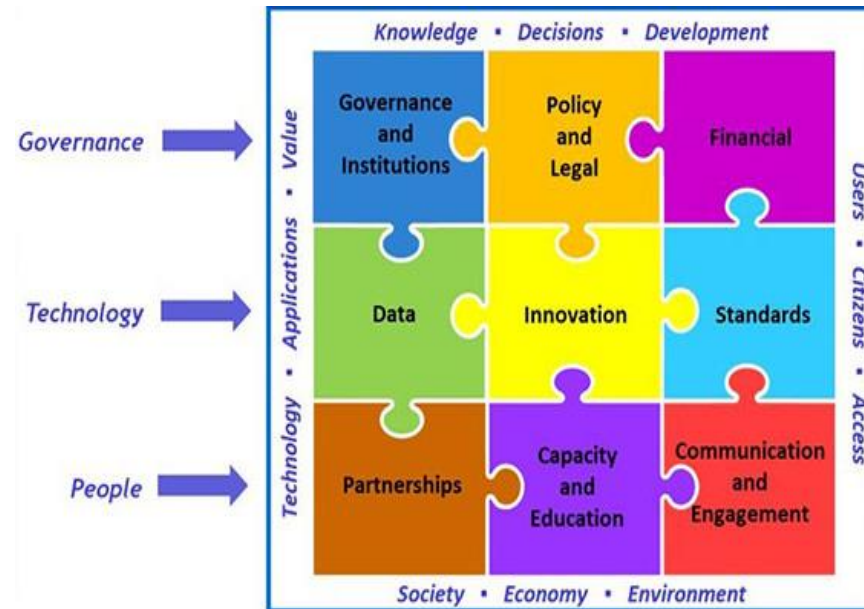
### Global Fundamental Geospatial Data Themes (UNGGIM/IGIF)



# Requirements & Gap Analysis

Carried out Analysis of requirements and gaps :

- High-level functions
- Data
- Policies & regulations
- Applications
- Computing infrastructure
- Staff capacity
- Enabling institutional environment

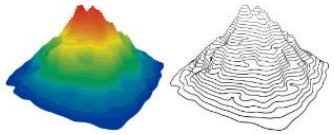


# Requirements & Gap Analysis (Challenges)

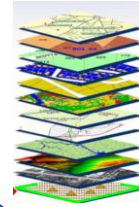


National address

Elevation



70 entities expressed the need for imagery and elevation data



Foundation Geospatial Data

Most of these data are produced at local level and no clear mechanism to exchange it with national level

Different ministries are gathering GI from different sources increasing the cost and impacting the Quality

70 entities expressed the need for foundation data

Navigable Roads



70 entities expressed the need to navigable roads and 8 entities have separate contracts with NAV providers

EID has challenges to provide addresses for Emergency crisis management

70 entities expressed the need of a NA

Challenges in coordination between government entities as each Entity refer to the same person with different address

Ministry of Justice: challenges for the reaching people for Court cases

Orthoimagery



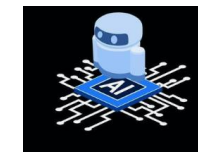
10 entities have contracts for the provision of the imagery of the same coverage areas

Geonames



Some entities requires the use of official Geonames and there is no established mechanism to manage Geonames at national level

AI



Autonomous driving



Big data

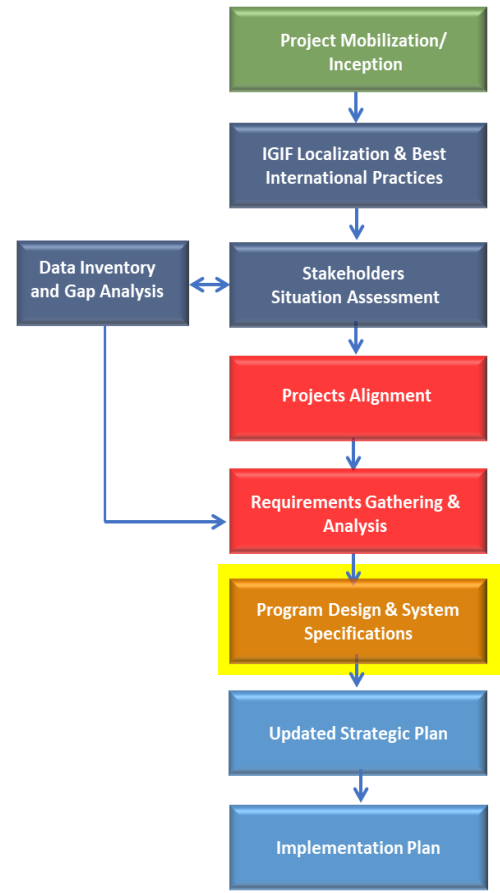
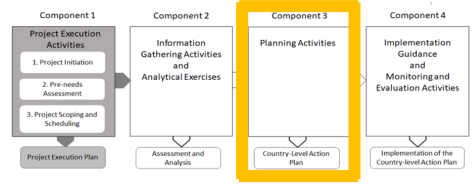
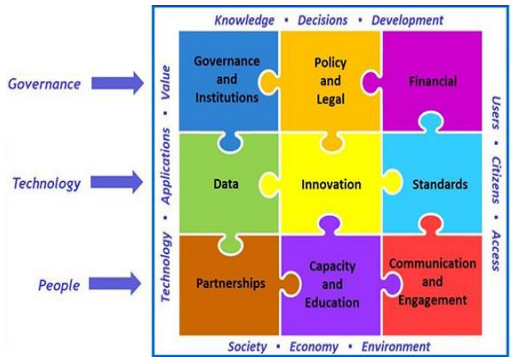


Current situation of GI does not support the Digital Transform of the country which require the use of advanced applications such as AI , autonomous driving and Big data

# Program Design

# Program Design

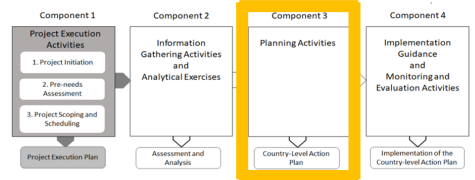
- Comprehensive design all of NSDI components, inclusive of institutional and technical factors, addressing nine IGIF pathways and any other required factors.
- System design of core services supporting NSDI systems and applications, including technical guidelines to ensure SDI partner services and applications are discoverable, shareable, easy to use, interoperable and feature a common design approach.



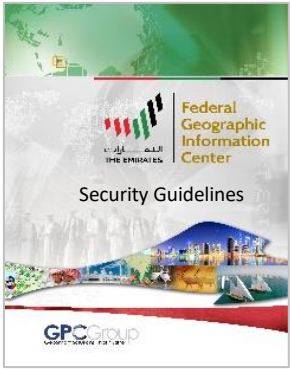
# Policy and Regulation



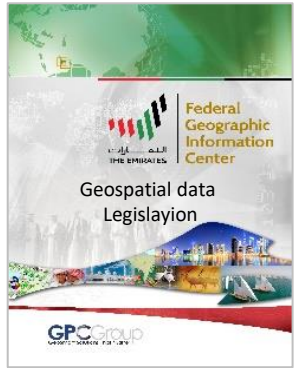
2 | Legal and Policy



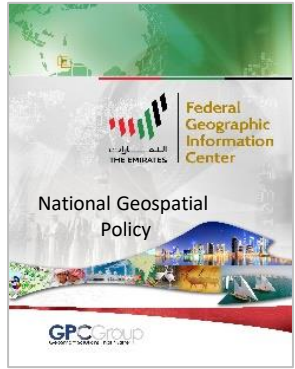
Master level agreements



Geospatial data Security guidelines

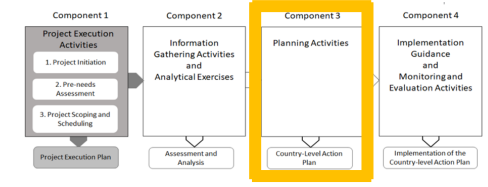


Geospatial data Regulation

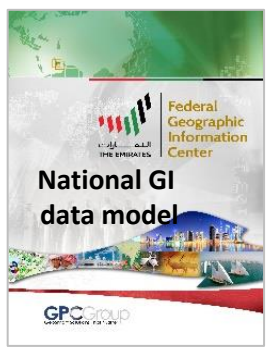


National Geospatial policy

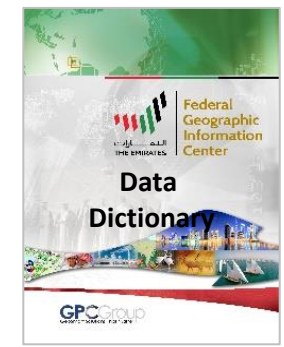
# Geospatial Data



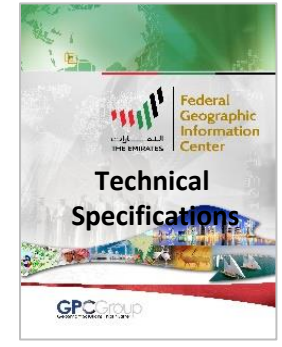
Preparation of Unified Geospatial data Model through which The National Geospatial database is unified



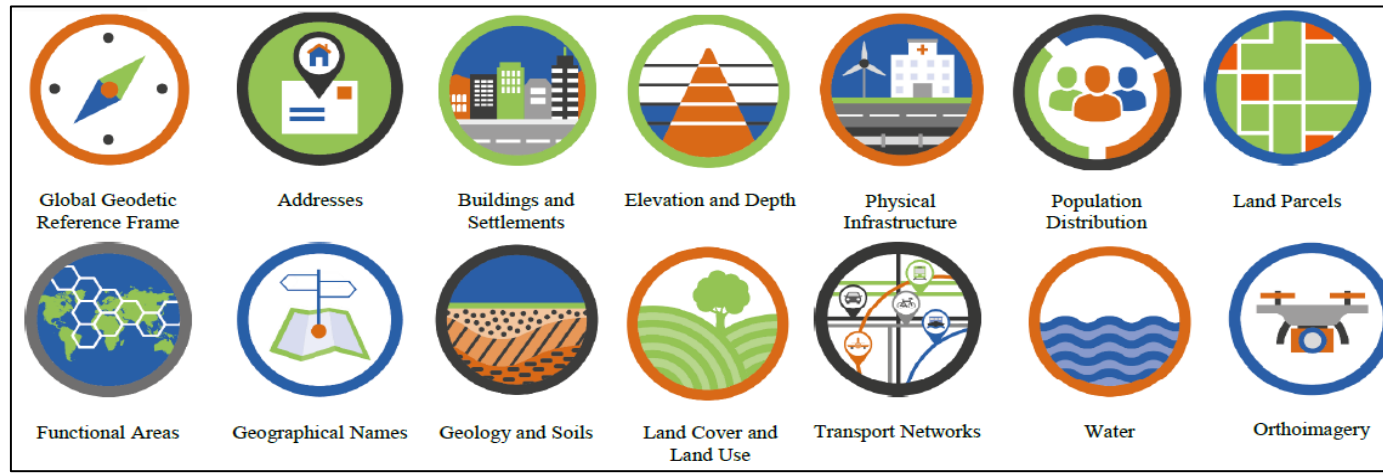
Preparation of Geospatial data Dictionary



Preparation of the Geospatial data Specification

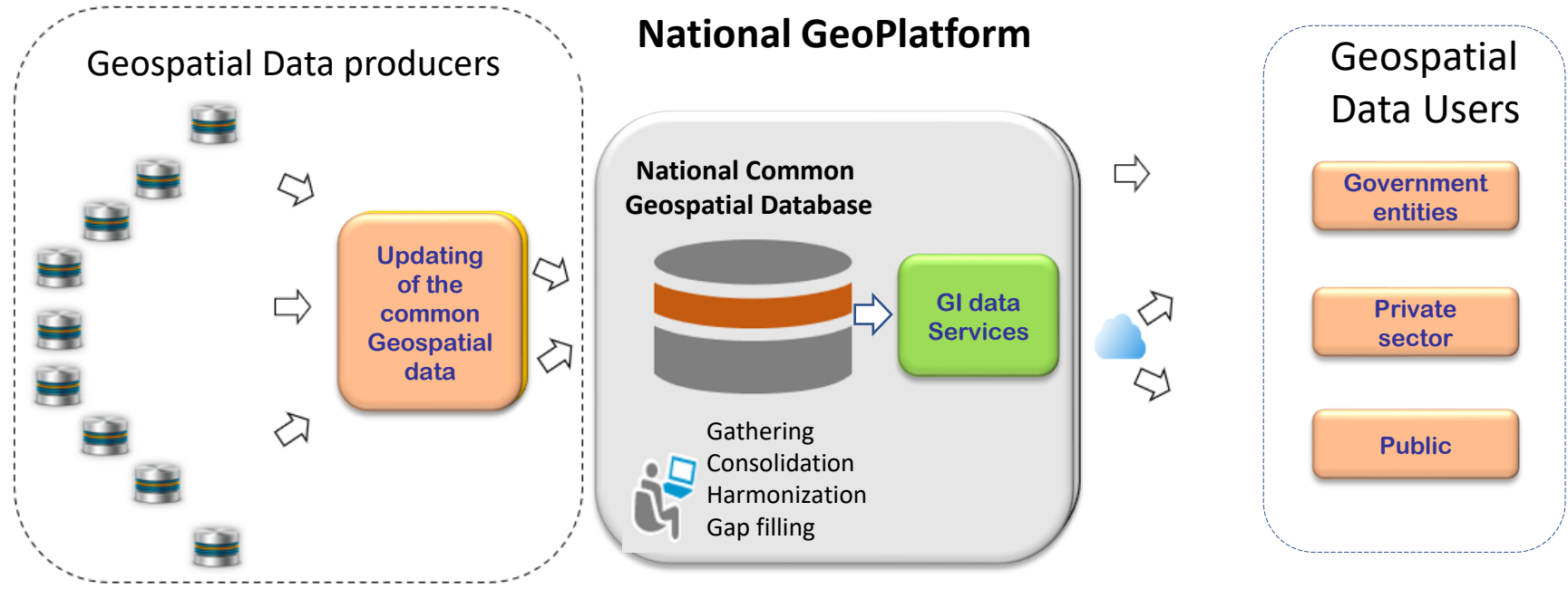
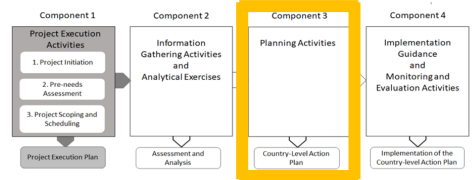


FGIC will establish the national Geospatial database based on the Unified data model and which will make available all the data required by the federal entities





# GeoPlatform Establishment

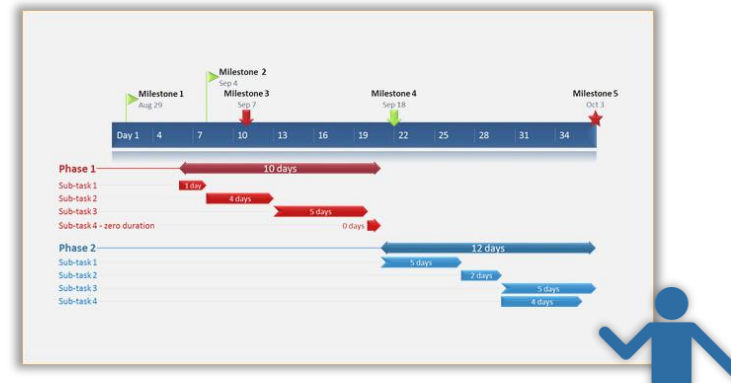


- Display common basic geographic information (aerial photos, buildings, streets...) and update it continuously on the platform
- Defining and designing applications and web services for the national geospatial information platform according to the center mandate
- Setting the security specifications for the system of the National Geospatial Information Platform
- Preparing mechanisms and procedures for managing the system and databases Connection and integration with the various authorities in the country (local, federal, security, private companies) or the public for integrated access to information

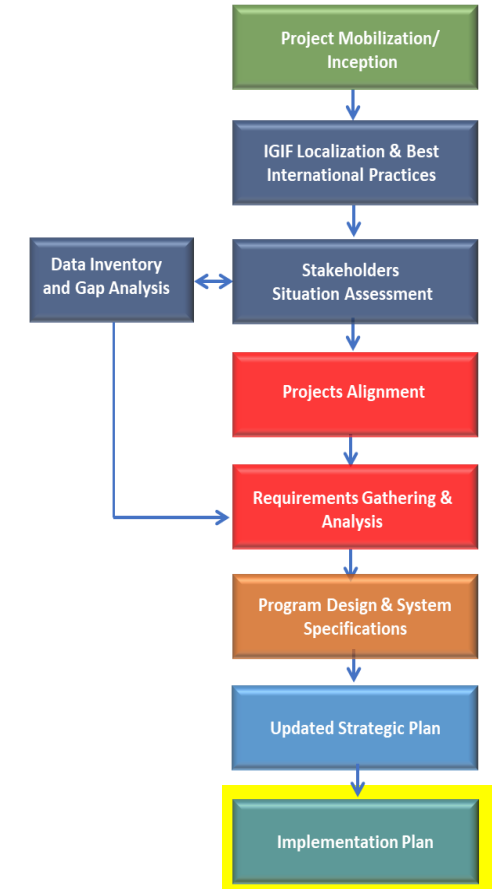
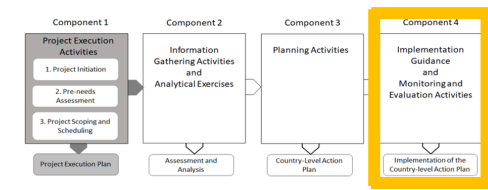
# Implementation Plan

# Implementation Plan 2023-2026

- A set of prioritized activities have been identified
- Initiatives have been defined
- The projects are being defined in terms of scope , activities , tasks m cost human resources and timing
- The Execution is planned the government strategic cycle **2023 -2026**



- ✓ *Implementation tracks;*
- ✓ *Project milestones and KPIs;*
- ✓ *Projects dependencies;*
- ✓ *Risk management plan.*



المركز الاتحادي للمعلومات الجغرافية  
FEDERAL GEOGRAPHIC INFORMATION CENTER



*Thank You ..*

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