KSA Geospatial Industry Journey

General Authority for Survey & Geospatial Information
Saudi Arabia

Presented by :
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Geospatial Data


United Nations | Geospatial, location data for a better world

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD

1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS

Data → Information → Knowledge → **Know How** → Intelligence → Decision
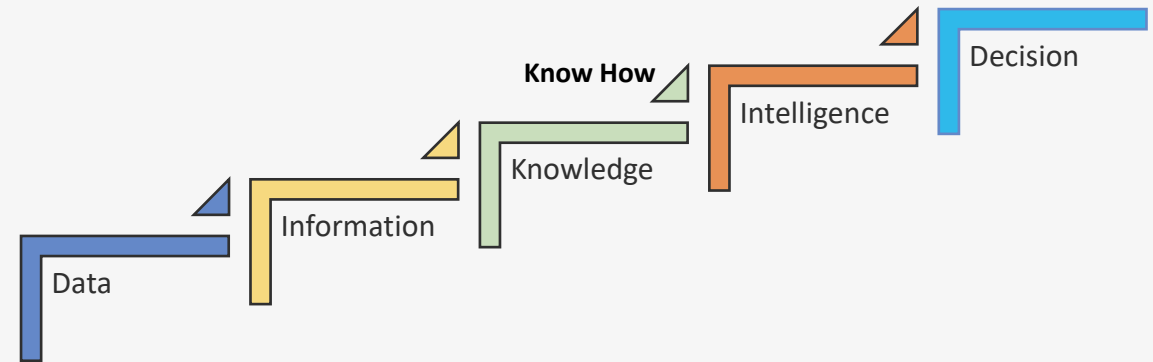
Moving from one step to another needs more: Human resource, technology, policy, standard.......etc

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Alharbi, B., (2022, October 10-14). KSA Geospatial Industry Journey [Conference presentation]. Second United Nations World Geospatial Information Congress, Hyderabad, India

General Authority for Survey & Geospatial Information (GASGI)

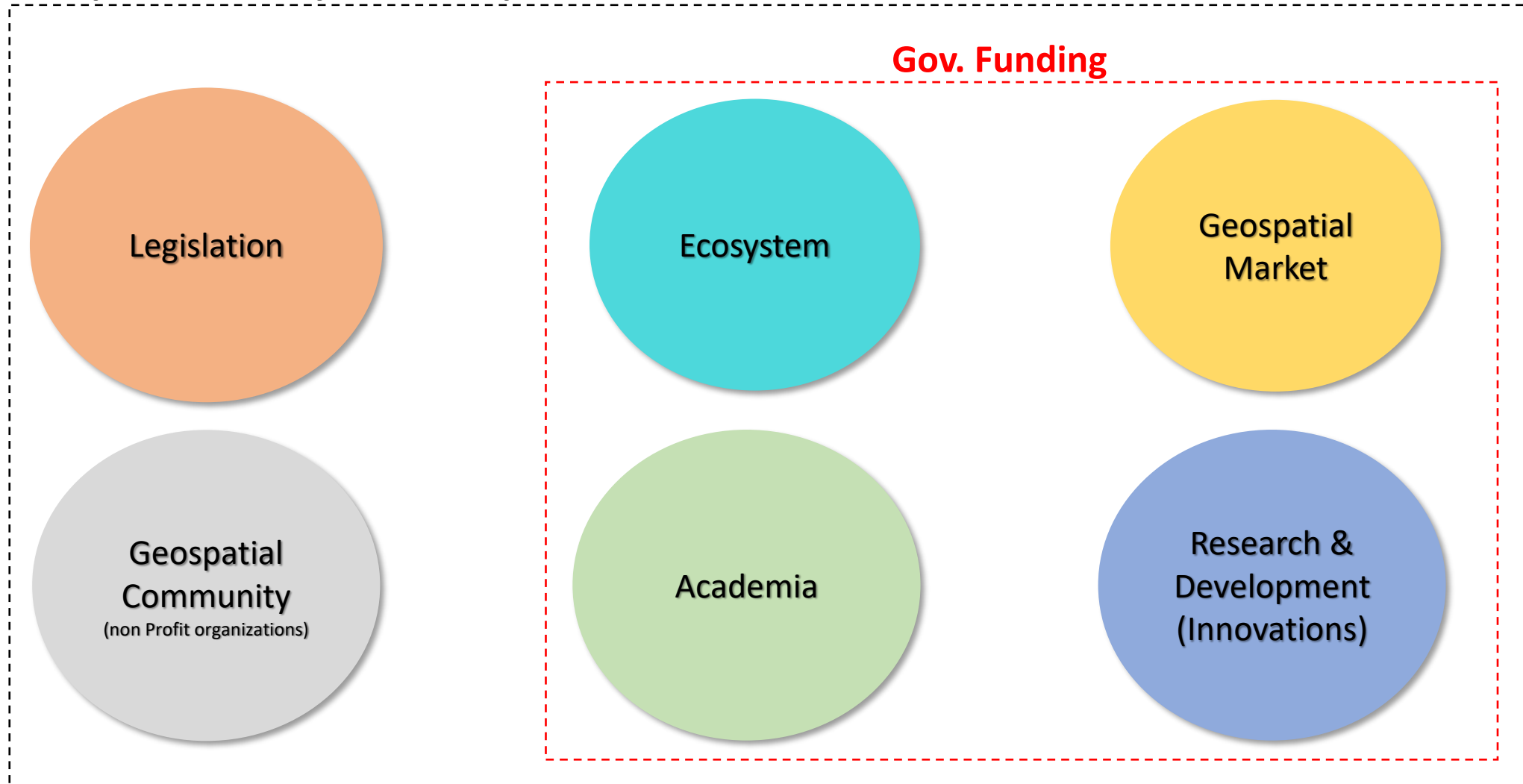Regulate, develop, supervise, and monitor the Geospatial Sector in KSA.

GASGI's Responsibility :

- Support and enabling the **Kingdom's Vision 2030** goals and other national strategies
- Enhanced engagement for utilization of integrated geospatial information
- Support the transformation and the national digital economy
- **Accelerating economic growth**, improving productivity and technological advancement in all sectors
- Encouraging and **supporting innovation** and creativity in the geospatial information sector

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Journey to Building Geospatial Industry

Geospatial Industry main components

Gov. Funding

Legislation

Ecosystem

Geospatial Market

Geospatial Community
(non Profit organizations)

Academia

Research & Development (Innovations)

Why ecosystem

- The global geospatial community is on a learning stage.

- Geospatial knowledge for better decision making

    Data -> Information -> knowledge

- Different geospatial data and different geospatial data producers tell us that an integrated system is the best methodology so far.
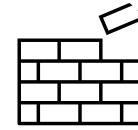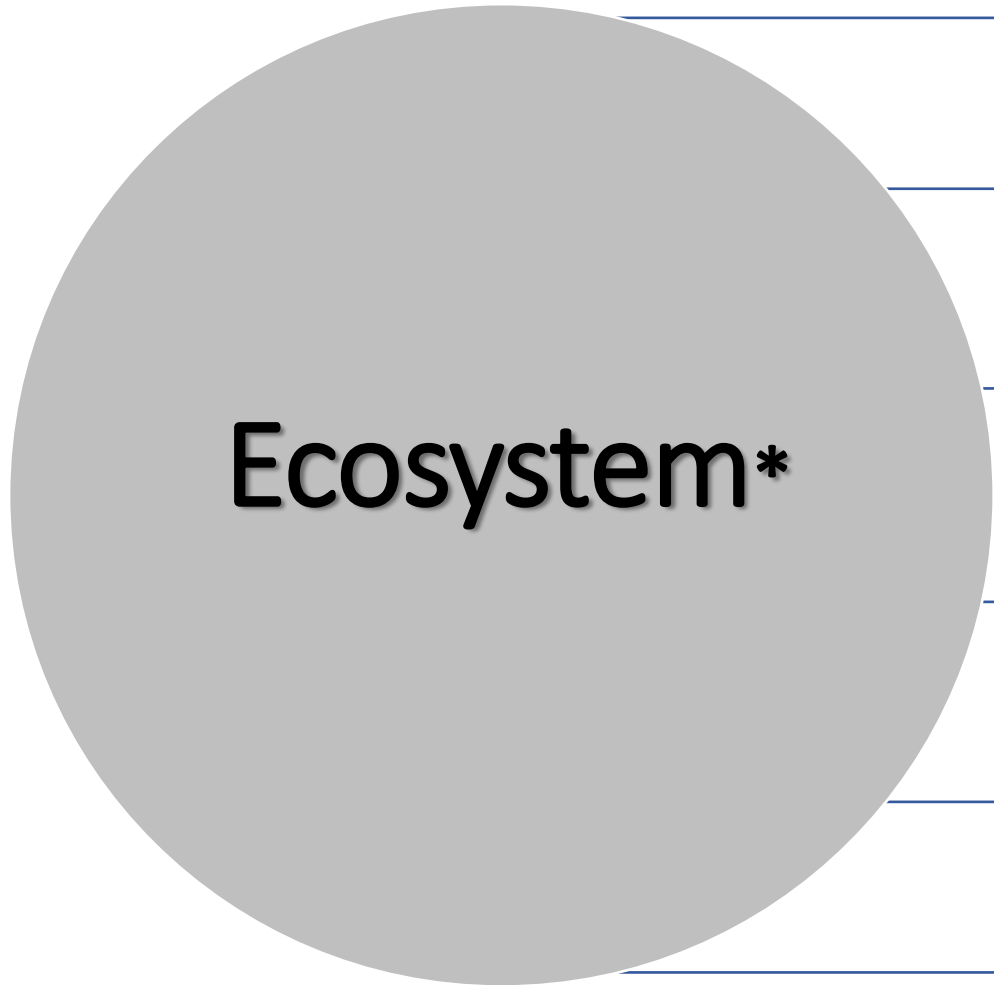
Geospatial ecosystems are logically subsets of wider digital information ecosystems, and typically comprise a multitude of stakeholders, not only government data providers, but a much wider range of organizations, individuals, and machines.*
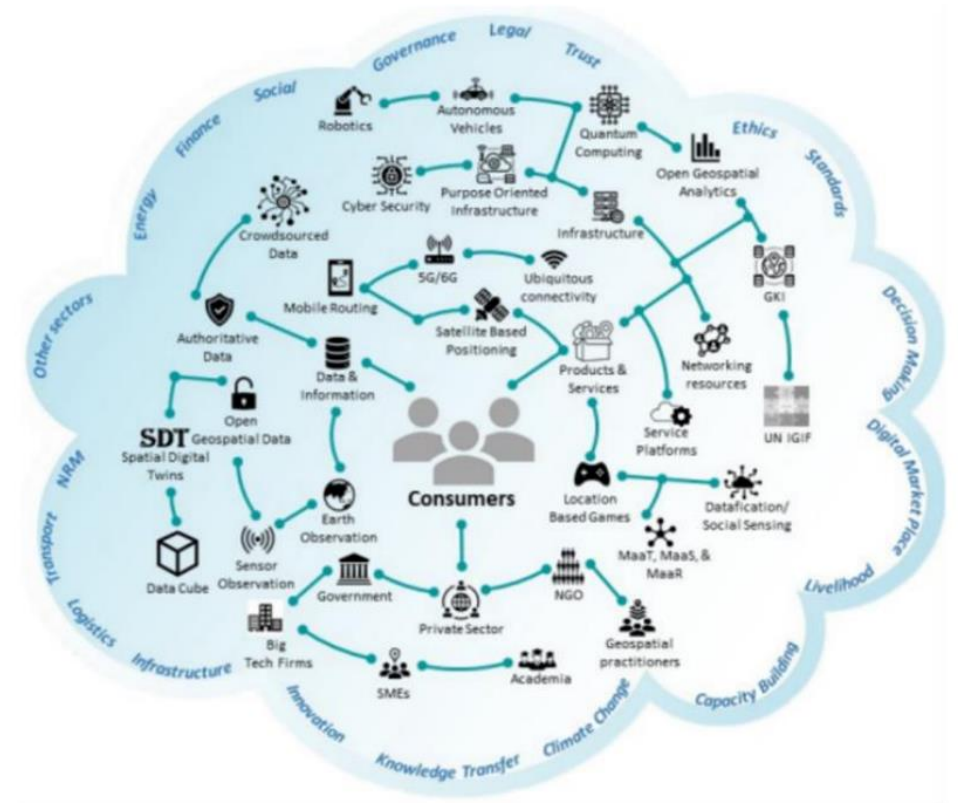
*The paper "Towards a sustainable geospatial ecosystem beyond SDIs" by Coetzee et.al1 , presented to the 11th session of UN-GGIM explains Geospatial ecosystem "as a system in which a community of actors (individuals or organizations and increasingly 'intelligent' machines) interacts via the geospatial information and technologies in their environment. Similar to natural ecosystems, the geospatial ecosystem is dynamic

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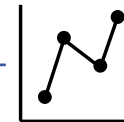

Ecosystem*

- Governance
- Standards
- Policies
- Platform
- Capacity Building

Open Data
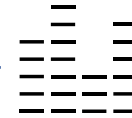
Digital Twin

Geospatial Analysis

Artificial Intelligence

Geospatial Technology

* Ecosystem has much more components, this is an examples of what GASGI started

Saudi Arabian National Geospatial Ecosystem (SANGE)

How?

- **strategic initiative** of GASGI with an intent for establishing a **sustainable**, **active**, and **nationally relevant** Geospatial Ecosystem that contributes to all activities and applications which require any element of geospatial knowledge.

KSA Geospatial Industry

SANGE

Current Geospatial infrastructures
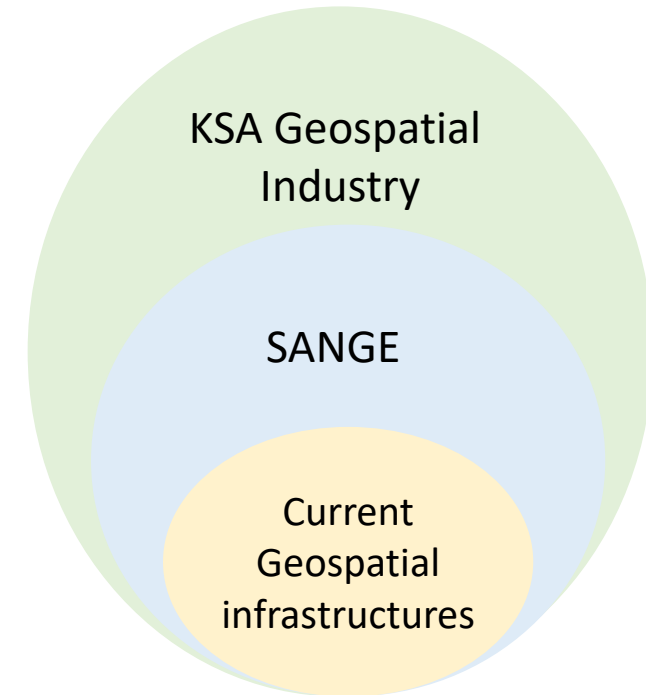
Saudi Arabian National Geospatial Ecosystem (SANGE)- a glance

- One of strategic goals for General Authority for Survey & Geospatial Information(GASGI) is enhancing Geospatial Industry in SA by developing SANGE as a first phase:
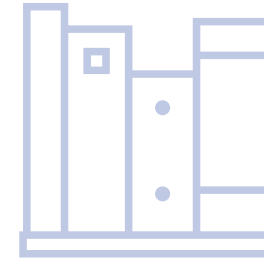
Data   **Standards**   **Policies**   **Legislations**   **Governance**
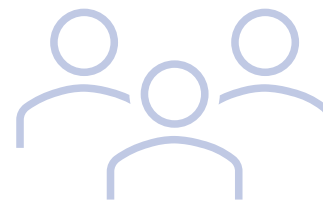
■ **SANGE**

Technologies   **Capacity Building**   **Geospatial Community**   **Geospatial Market**   **Research & Development**

Start: KSA As-Is Analysis Study

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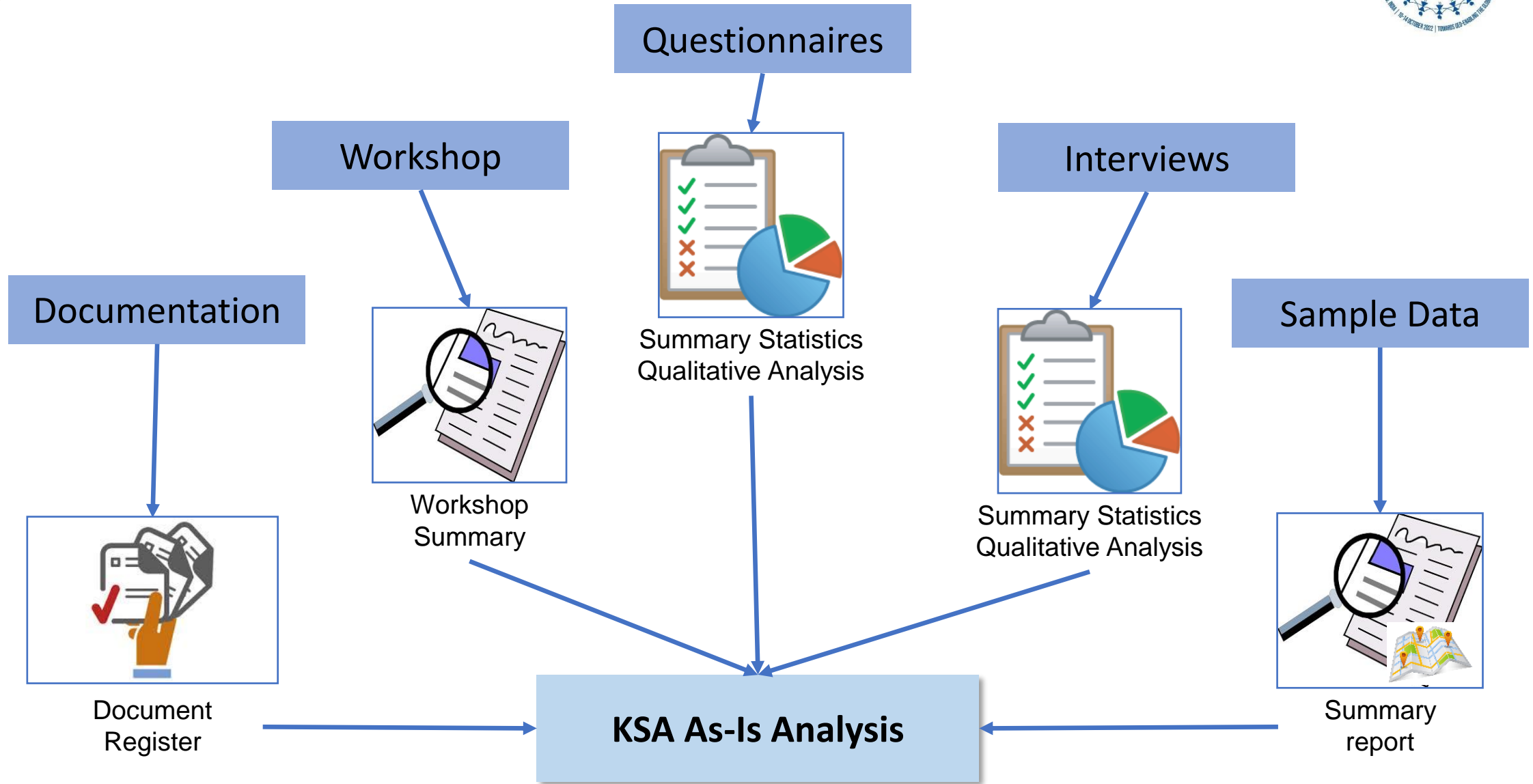
Geospatial Infrastructure Components – Maturity Levels

Organizational
- Governance
- Policies & Licensing
- Funding & Pricing
- Partnerships
- Markets
- Legislative Framework

Data
- Foundation Data
- Metadata

People
- Communication
- Users
- Culture

- Skills
- Resources

Standards
- Data
- Metadata
- Services

Technology
- Systems & Services
- Interoperability
- Enabling Technologies

Maturity Level Development

1 Ad-hoc	2 Repeatable	3 Defined	4 Managed	5 Optimized

Governance of Foundation Geospatial Data in KSA - a glance

Geospatial Data Governance Model
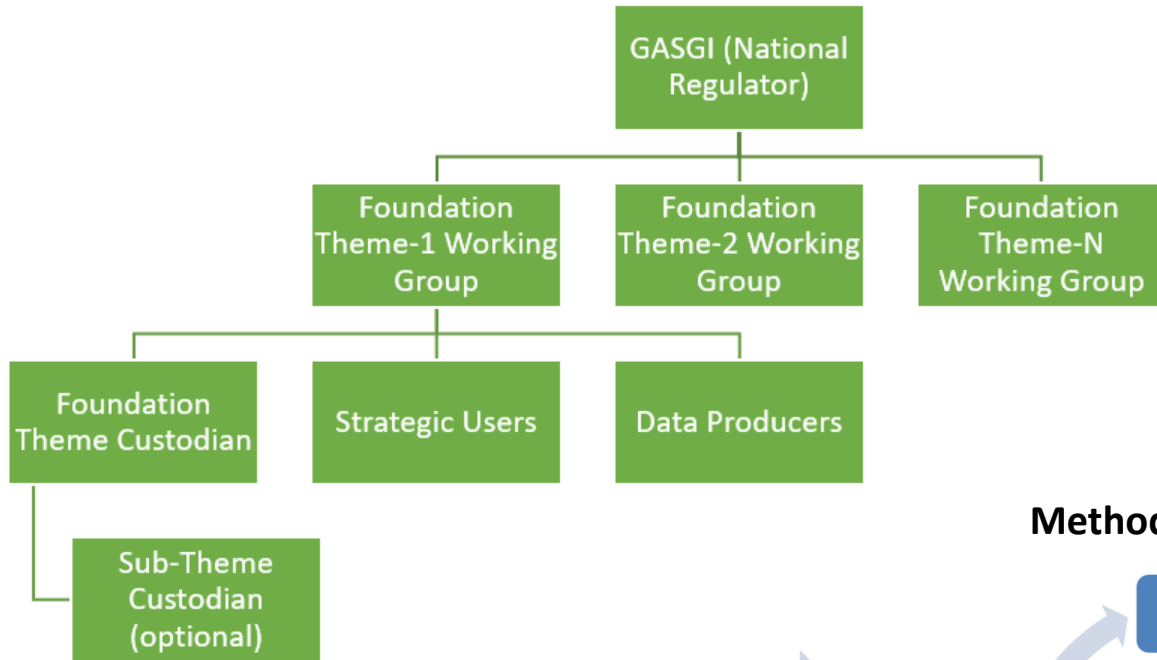
12
Foundation Geospatial Data Themes

Administrative Regions
Elevation
Geographical Names
Geology
Imagery
Land Cover
Land Parcels
Land Use
National Address
SANSRS
Transport
Water
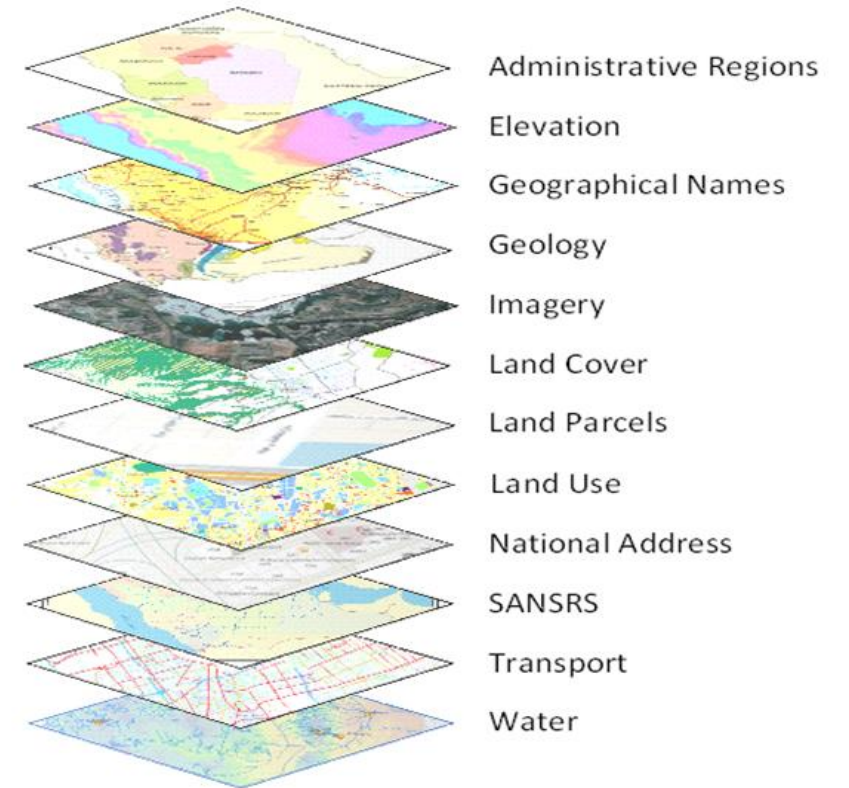
Methodology Used

Geospatial Data Standards in KSA - a glance

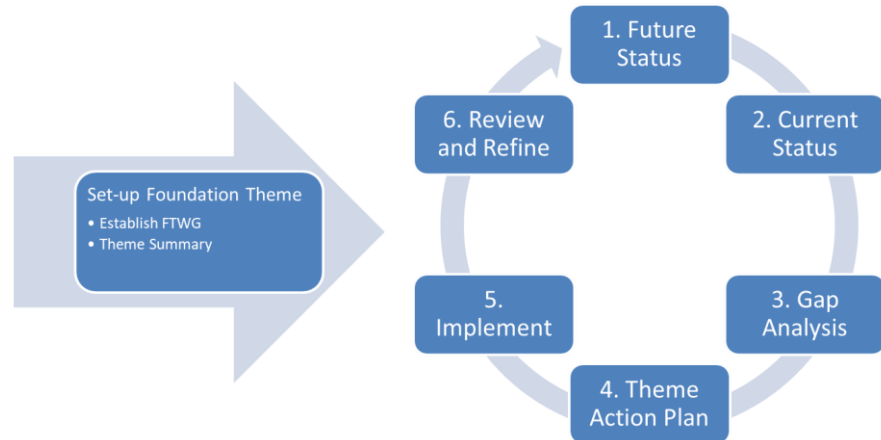Geospatial Standards Guide document

National Technical Community for GS Adaption

9 international organizations issuing geospatial standards nominated for adaption

90+ International Geospatial Standards Abated as National Geospatial Standard

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National Geospatial Platform - a glance
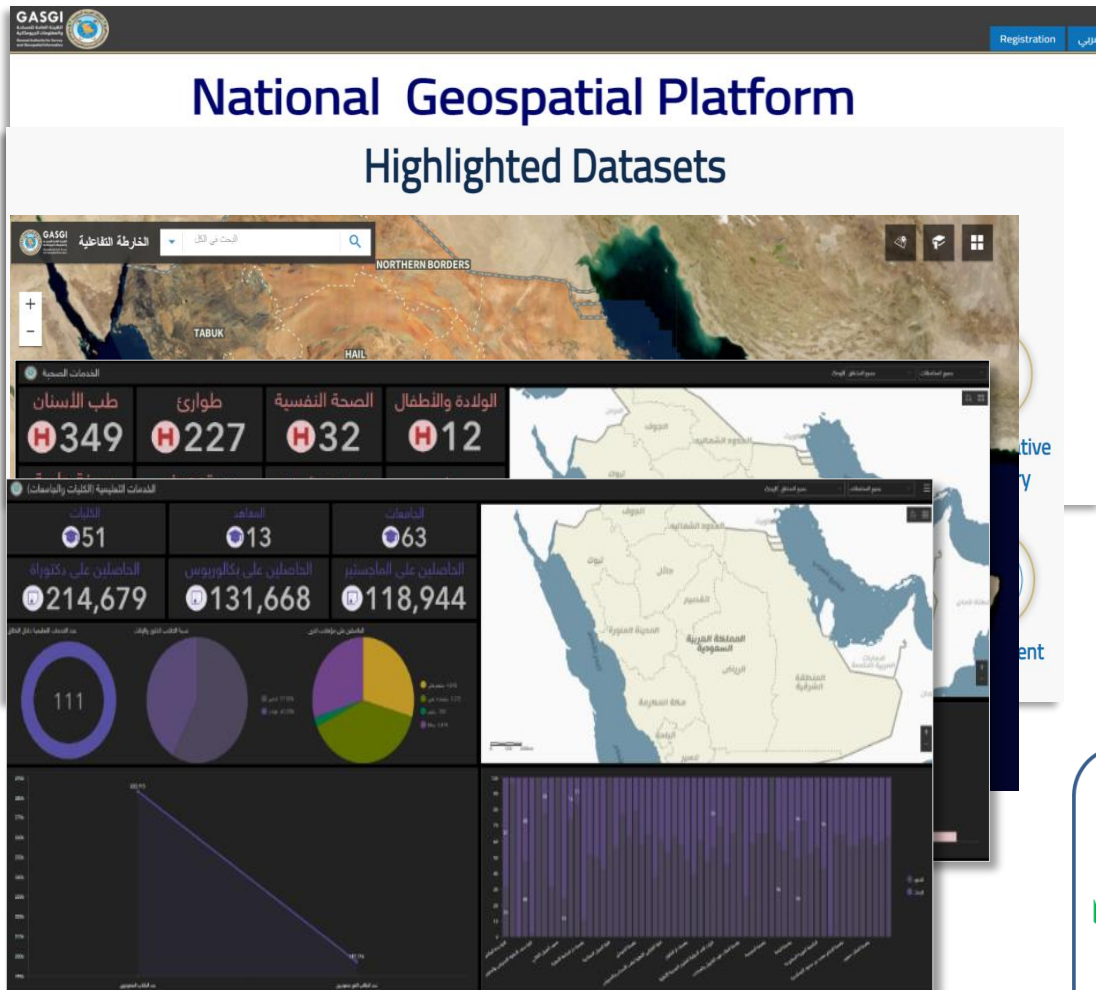
National Geospatial Platform is operational since February 2020

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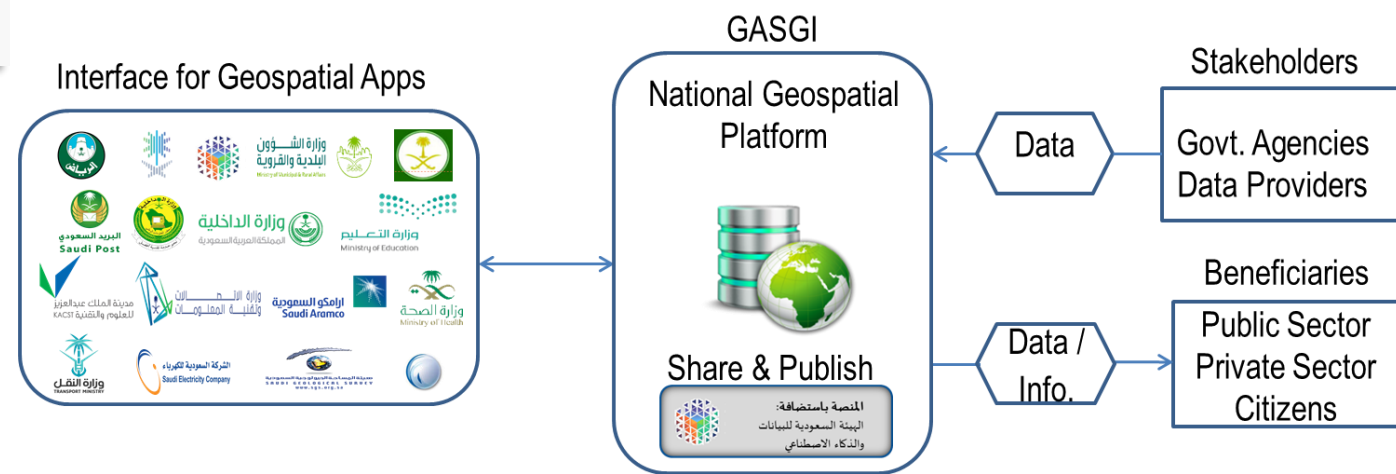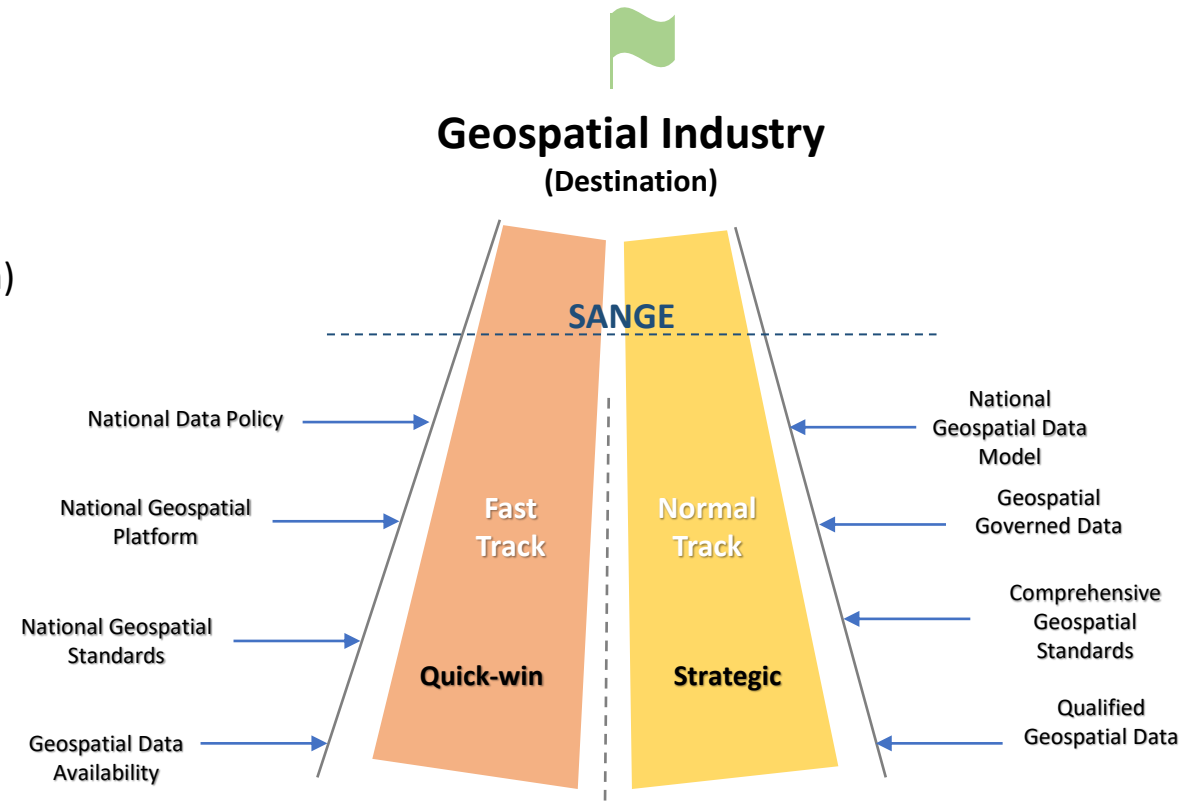
What Next...

- ## Journey of building Geospatial Industry is along one

  - ### Sustainable path (strategic direction):
    Continue Development

    - SANGE (Saudi Arabian National Geospatial Ecosystem)
    - GASGI Academy
    - Review & improve government legislation

  - ### Quick-win path :

    - Provide the available data to users
    - Open certain data to the public ,private and geospatial community
    - Governance fundamental data sets
    - Keep Enhancing data quality
    - Building national data model
    - Build KSA national geospatial standards

Geospatial Industry
(Destination)

SANGE

Fast Track — Quick-win
Normal Track — Strategic

National Data Policy → Fast Track
National Geospatial Platform → Fast Track
National Geospatial Standards → Fast Track
Geospatial Data Availability → Fast Track

National Geospatial Data Model → Normal Track
Geospatial Governed Data → Normal Track
Comprehensive Geospatial Standards → Normal Track
Qualified Geospatial Data → Normal Track

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Thank you