



UN-GGIM : Arab States

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UN-GGIM : Arab States

- **Background**
- **Objectives**
- **WG3: Geodetic Reference Frame**
- **ARABREF infrastructure**
- **KSA contribution to ARABREF**

UN-GGIM : Arab States

Background

- UN-GGIM: AS established by the UN-GGIM on fourth session in New York in August 2014.
- Number of countries: 22
- Total area: 12364922 km²





UN-GGIM : Arab States

Executive Committee:

Chair: Kingdom of Saudi Arabia



Vice Chair: Hashemite
Kingdom of Jordan



Vice Chair: People's Democratic
Republic of Algeria



Secretary General:
Kingdom of Saudi Arabia



UN-GGIM : Arab States

Objectives:

- Share the UN-GGIM experience between the Member Countries.
- Establish accurate and reliable geodetic reference in the Arab Region.
- Implement UN-GGIM policies.
- Develop strategies and guidelines in each member country to support UN-GGIM.
- Achieve a level of consistency and geospatial maturity.
- Access, integration and dissemination of the geospatial information between the member countries and global matters.
- Development of standards for geospatial data and services to achieve the goal of UNGGIM.
- Share geospatial data among member countries of the Regional Committee.



UN-GGIM : Arab States (Working groups)

WG1: Institutional Arrangements, Legal and Policy Issues, Awareness and Capacity Building

Chairman



Kingdom of Morocco

Vice Chairman



Republic of the Sudan



United Arab Emirates

WG3: Geodetic Reference Frame

Chairman



People's Democratic Republic of Algeria

Vice Chairman



Kingdom of Saudi Arabia



Lebanese Republic

WG2: Fundamental Data and Geo-Standards.

Chairman



Republic of Tunisia

Vice Chairman



Kingdom of Morocco



State of Qatar

WG4: Integration of Geospatial & Statistical Information

Chairman



Sultanate of Oman

Vice Chairman



Arab Republic of Egypt



State of Kuwait

WG3: Geodetic Reference Frame



13 Member Countries in WG3

Member Countries



Hashemite Kingdom of Jordan



Arab Republic of Egypt



Kingdom of Bahrain



Kingdom of Morocco



Republic of Tunisia



State of Kuwait



State of Palestine



State of Qatar



Sultanate of Oman



United Arab Emirates



Kingdom of Saudi Arabia



People's Democratic Republic of Algeria



Lebanese Republic



WG3: Geodetic Reference Frame

Objectives:

- Establishment of the ARABREF as the unified geodetic reference frame for Arab States to support the Global Geodetic Reference Frame (GGRF) fully consistent with the International Terrestrial Reference Frame (ITRF) using ITRF Standards.
- Realize a Unified Vertical Datum and support efforts to establish a precise Regional Geoid.
- Enhance the skills of Arabian geodesists, surveyors and researchers in geodesy to manage the ARABREF.
- Determine the relationship between the existing national reference frames and the ARABREF.
- Establish continuous, permanent GNSS stations such that each user has free access to the data.



ARABREF infrastructure

- GNSS data of at least 10%, with an appropriate distribution of the CORS network of each country.
- Data Centres to store and archive GNSS CORS RINEX and metadata files with privilege access to all AS Members.
- Analysis Centres for daily analysis of ARABREF CORS network.



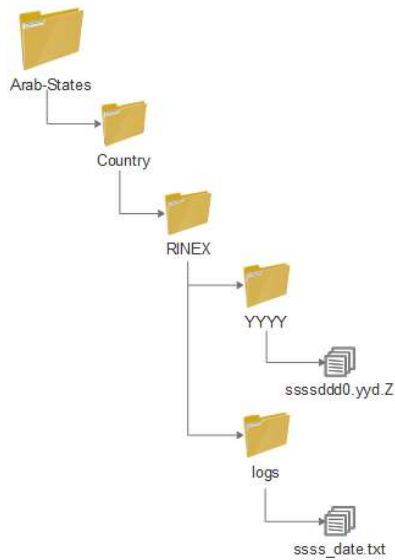
ARABREF infrastructure

Contribution of each country:

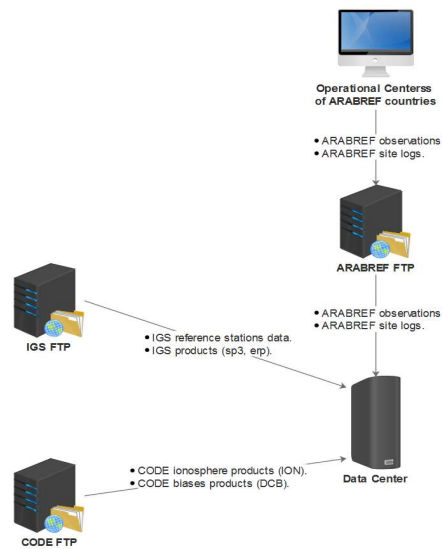
Country	Number of GNSS CORS	Data Center	Analysis Center
Algeria	10	Yes	Yes
Egypt	4		Yes
Jordan	1		Yes
Lebanon	1		Yes
Morocco	4		Yes
Oman	4		Yes
Qatar	2		Yes
Sudan	2		Yes
Kingdom of Saudi Arabia	10	Yes	Yes
Tunisia	3	Yes	Yes

KSA contribution to ARABREF

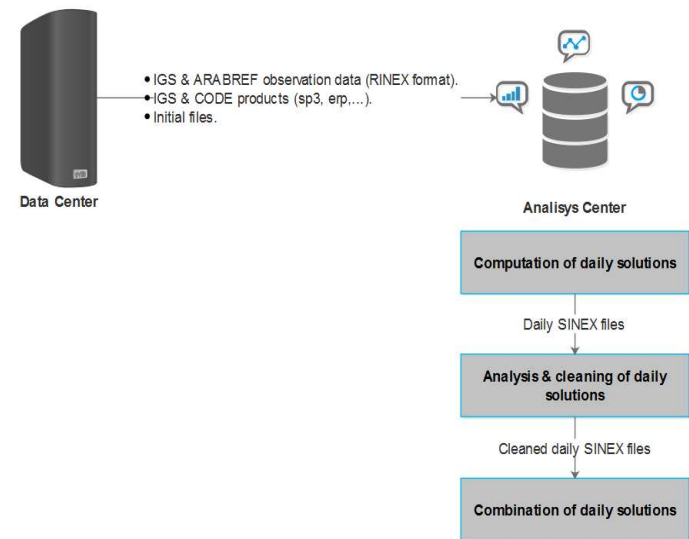
- Preparation of the GNSS Data Sharing Protocol & Guidance.
- Establishment of ARABREF FTP site for GNSS data storing: <ftp://arab-states.gcs.gov.sa>.
- Establishment of Data and Analysis Centers.



ARABREF FTP site



KSA DC structure



KSA AC structure



Daily sessions preprocessing strategy

- Software to be used: ***Bernese GNSS Version 5.2***
- Daily processing strategy: ***double-difference processing RNX2SNX***

Data
pre-processing

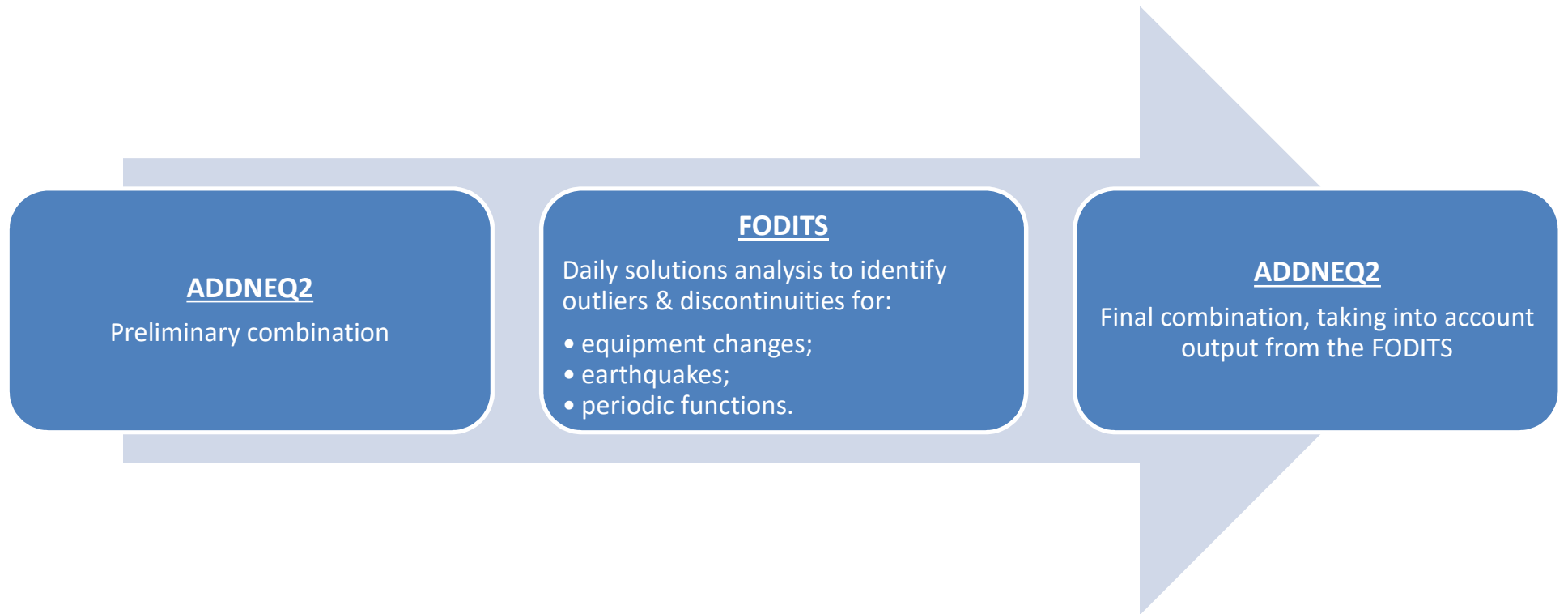
Ambiguity
resolution

Generation of the
final daily solution



Strategy of daily solution analysis and combination

Daily solutions combination will be done with Bernese tools ADDNEQ2 and FODITS.





Thank You

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