Building an Effective Data Management System within FRSC to manage Road Traffic Data in the 21st Century

by

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Outline

- Why EDMS?
- Concept of Modern Efficient Data Management Information System
- Stages and Component of EDMS development
- Conclusion

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The Concept of EDMS

The Century Ideals


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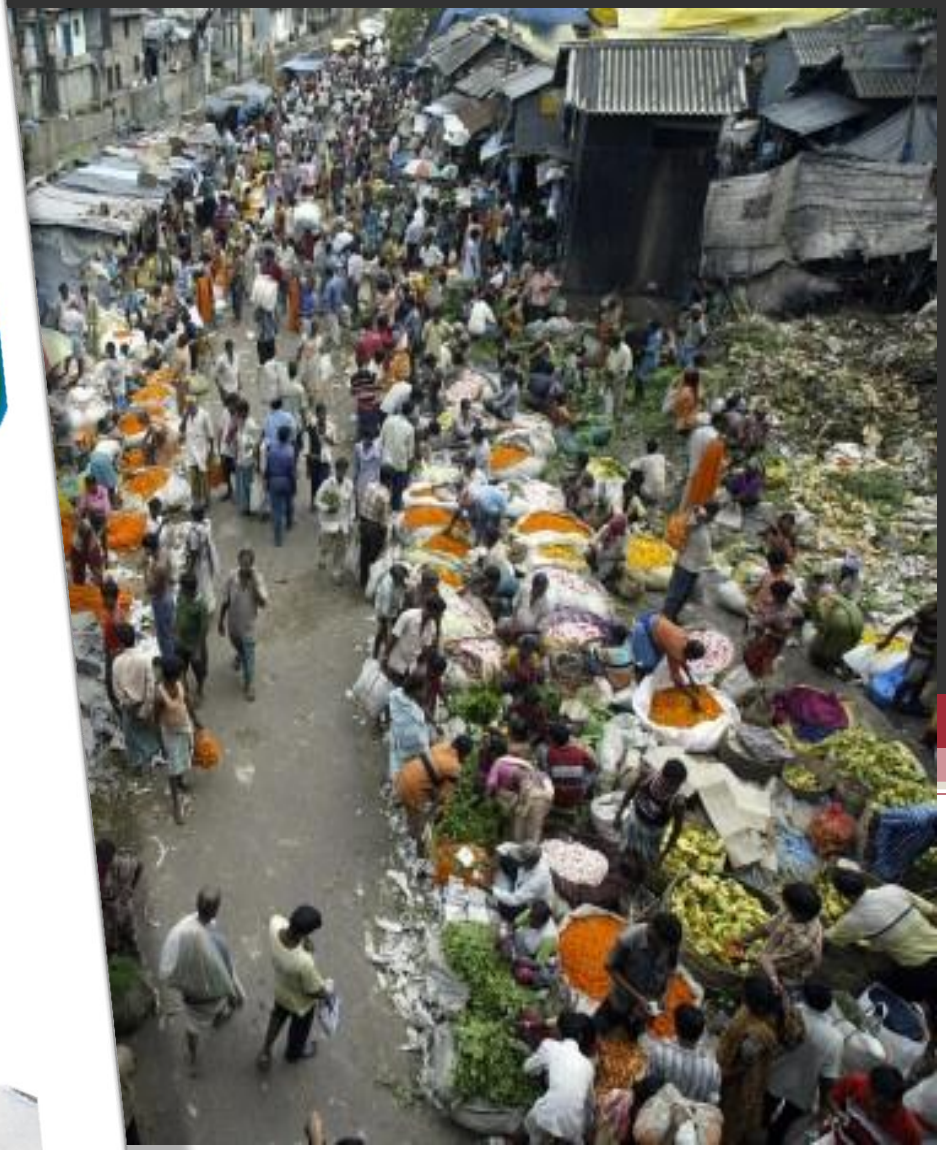

Gone Century

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Sources

Users

- Past methods of assembling and managing Data rely on manual technologies which are slow and in the long run expensive. The methods are also very inefficient.

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INTERNATIONAL SELECTIONS
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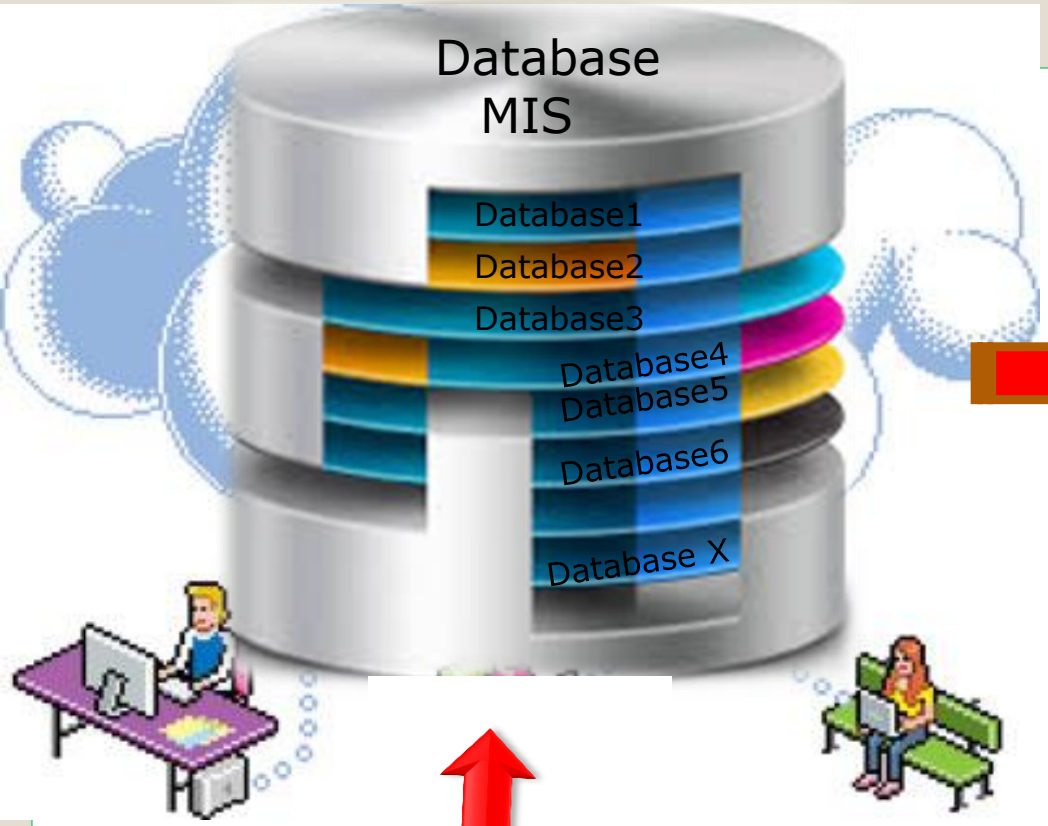
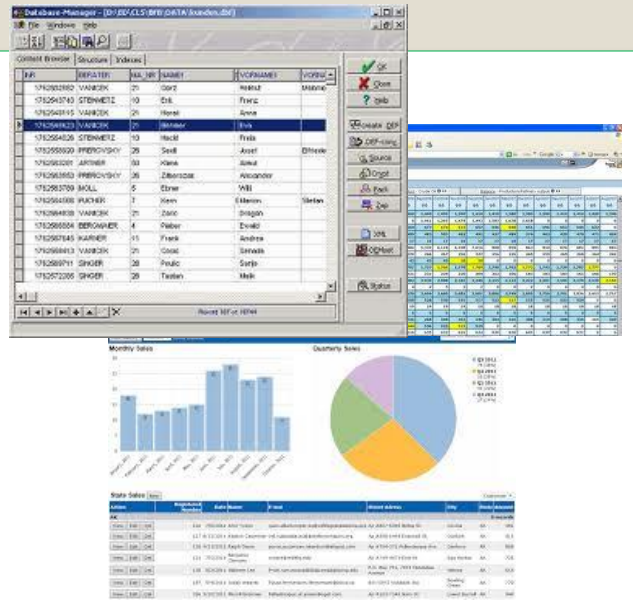
A Typical 21st Century DMS





Reports

Data Supplier

Data Supplier

Data Supplier

Data Supplier

Data Supplier

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Why the need for EDMS in the FRSC?

Data, as it stands, is in adequate to meet the challenge, and is not sufficient to effectively inform evidence-based policies because it is not timely, reliable and accurate

Necessitates **Good statistical information**

Implement **Transformation agenda 2011-2015**

Achieve **Vision 20:2020**

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Introduction

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Virtually all Depts., & Agencies of FRSC engaged in one form of Road Traffic activities or the other.

Apart from the normal departmental activities, there are also studies (Survey, Census & Research) carried out within the Corps and its Agencies.

As a result, there is need for the Corps' Departments and Agencies to keep records of all activities relating to the sector in an organised manner.

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Good Road Traffic Data

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- Good Road Traffic Statistical information comes from Good Data Management System
- Producing such good statistics is the collective responsibility of the Corps at the Federal, State and LGA levels.

- So the Coprs. must ensure that data produced are
  - Reliable
  - Timely
  - Accurate
  - Easily Accessible
  - Data in different form or format
  - Easy to use and re-use

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The Concept: Steps, Elements and Requirements

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Steps in developing an Effective Sector Data Management System

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- **Determine where the CORPS** is, in the assemblage and management of Sector Statistics so as to identify data and information needs of each sector of the Corps.
- **Examine level of** "Hard" and "Soft" data infrastructure in the Sector
- **Determine what is considered to be "socially desirable & economically feasible"** in modernising the process of data and information production and management in the Sector
- **Examine the Humanware level available** so as to design capacity building initiatives for all staff in the Sector

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Elements of DMIS

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Five major elements identified necessary to be considered in implementing such an Integrated Data Management Information System [DMIS] otherwise call Data Bank (DB);

- Identification of operational data and their acquisition, transformation and integration into a data pool or warehouse.
- Configuration of a Database Management System [DBMS] for managing the data pool.
- Construction of user Decision Support System [DSS] applications to generate information from the data pool.
- Construction of an electronic storage system where information resides for use anytime.
- Construction of a communication system to move or transmit data and information within an organisation [e.g ministry] or across organisations [ministry to ministry] or in different locations [state to state] or globally [country to country].

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Requirements of DMIS

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For the ministry to have the a Modern DMIS (Databank) MDA must develop a strategy in the following areas:

- Data Production
  - Collection, Processing, Analysis (various sources)
- Content Development for standardized Storage and Exchange
  - Compendium of Statistical Terms, Concepts Definitions and Management
- Hardware Requirement
  - LAN within, MAN or WAN
- Software Requirement
  - Applications development
- Humanware Requirement
  - Training on statistics
  - Training on ICT

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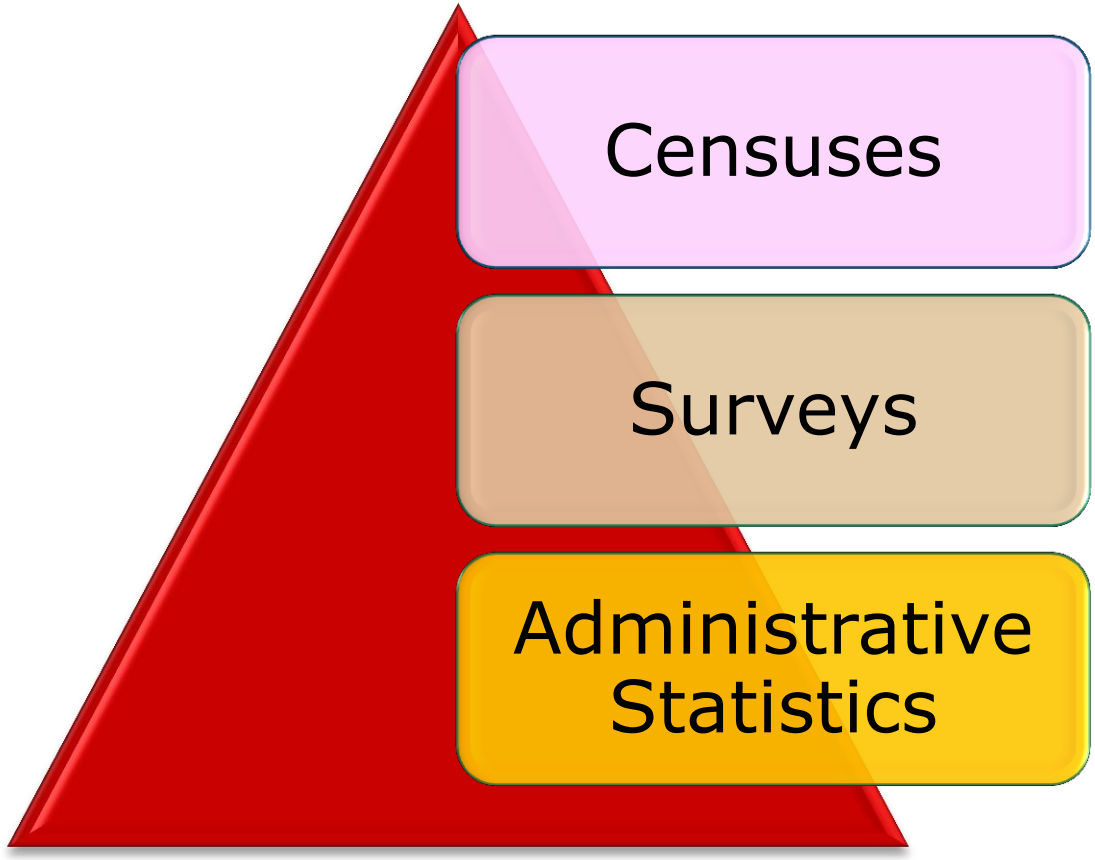
Data Production: Main Sources



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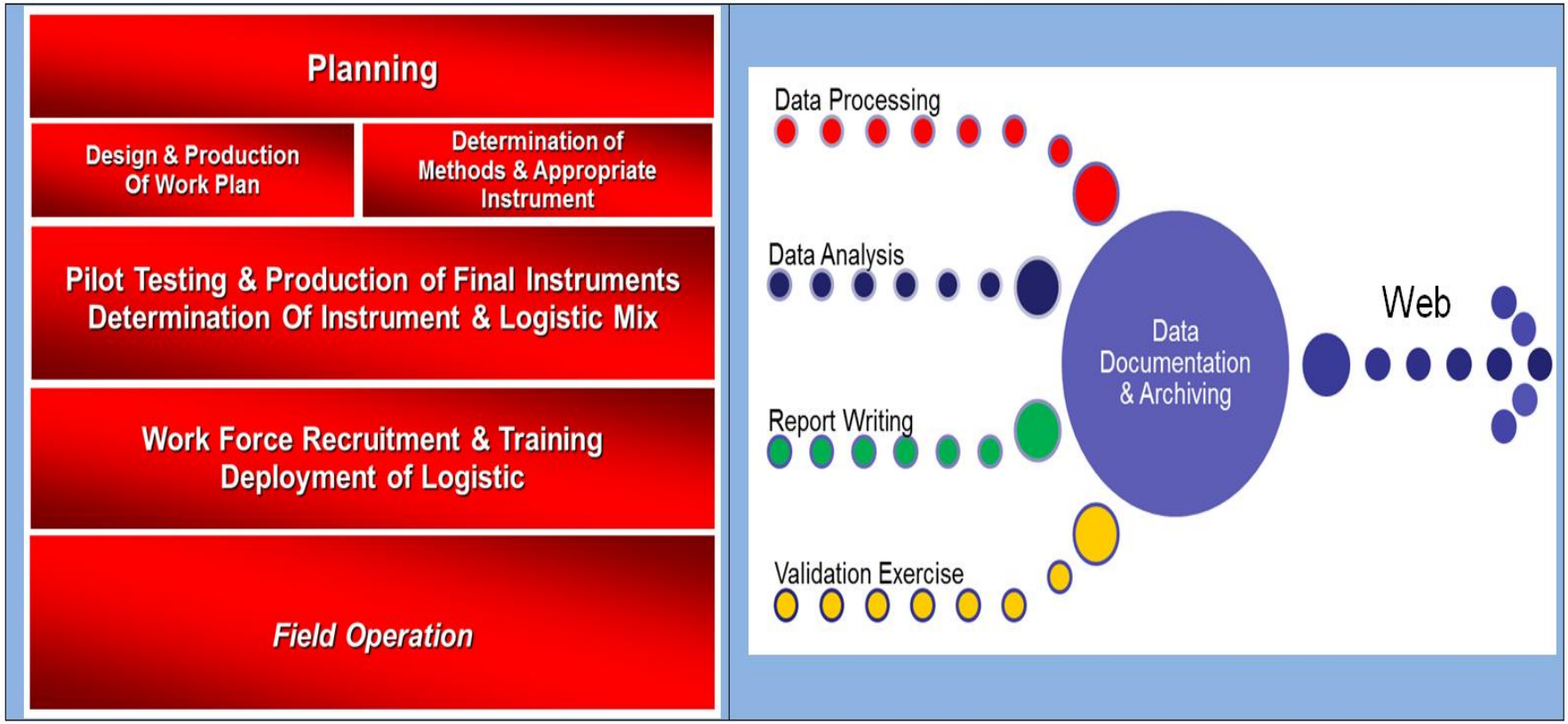
Complete Data Production Process



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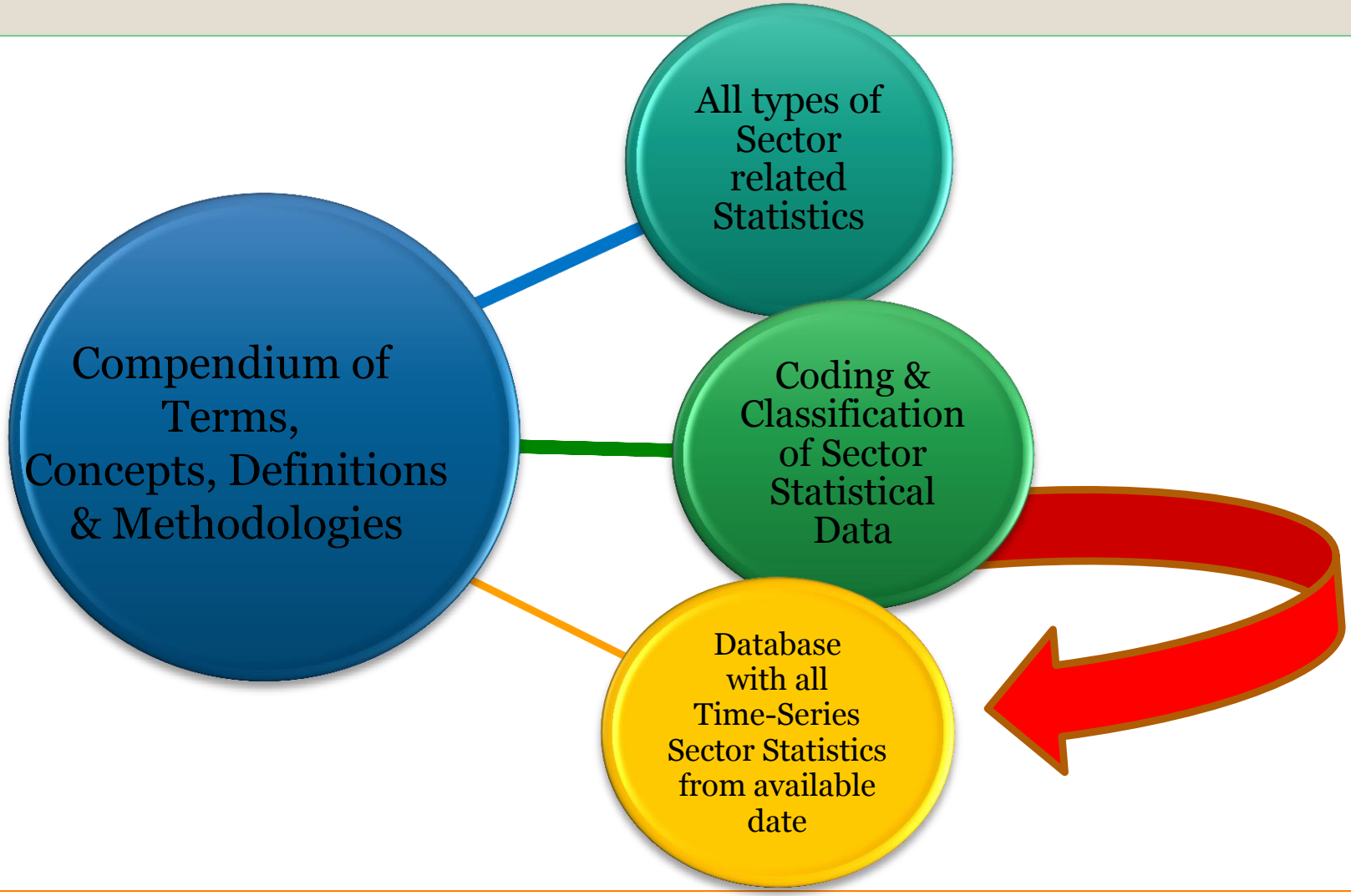
Content Development – Compendium of Statistics



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The Sectors Compendium

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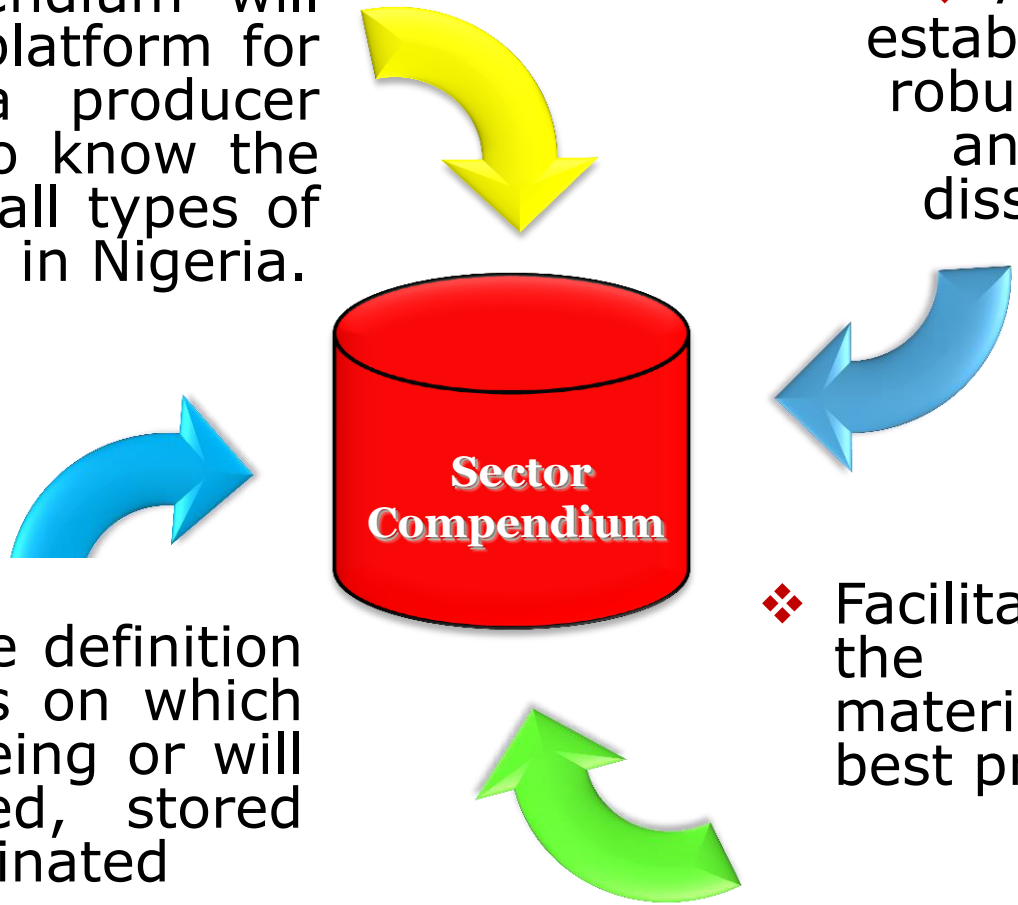
- The compendium will provide a platform for every data producer and user to know the sources of all types of Sector data in Nigeria.



- Allow the establishment of a robust database, analysis and dissemination.
- Provide the definition of variables on which data are being or will be collected, stored and disseminated
- Facilitate access to the full source material underlying best practices

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The Compendium....

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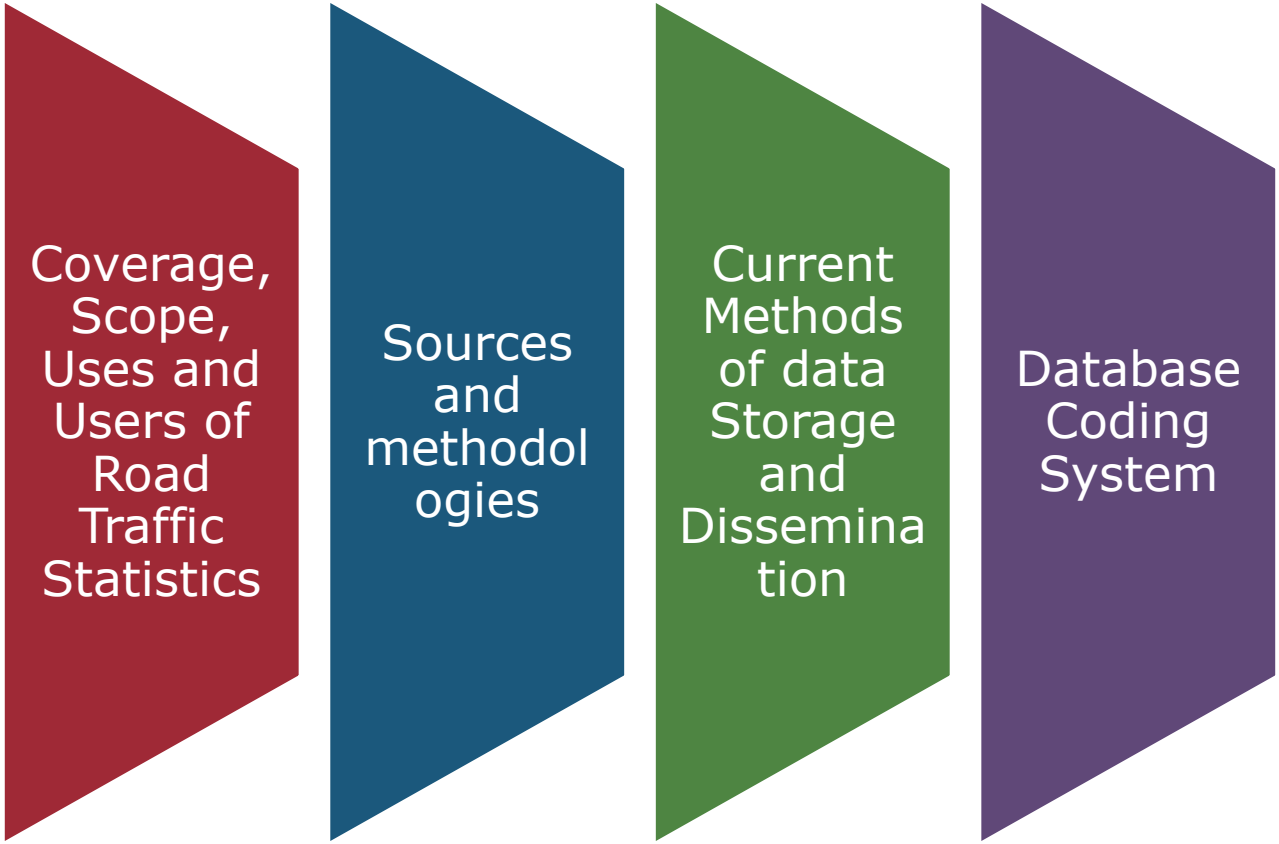

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Connectivity: Develop Hardware Infrastructure for connectivity within and outside the MDAs

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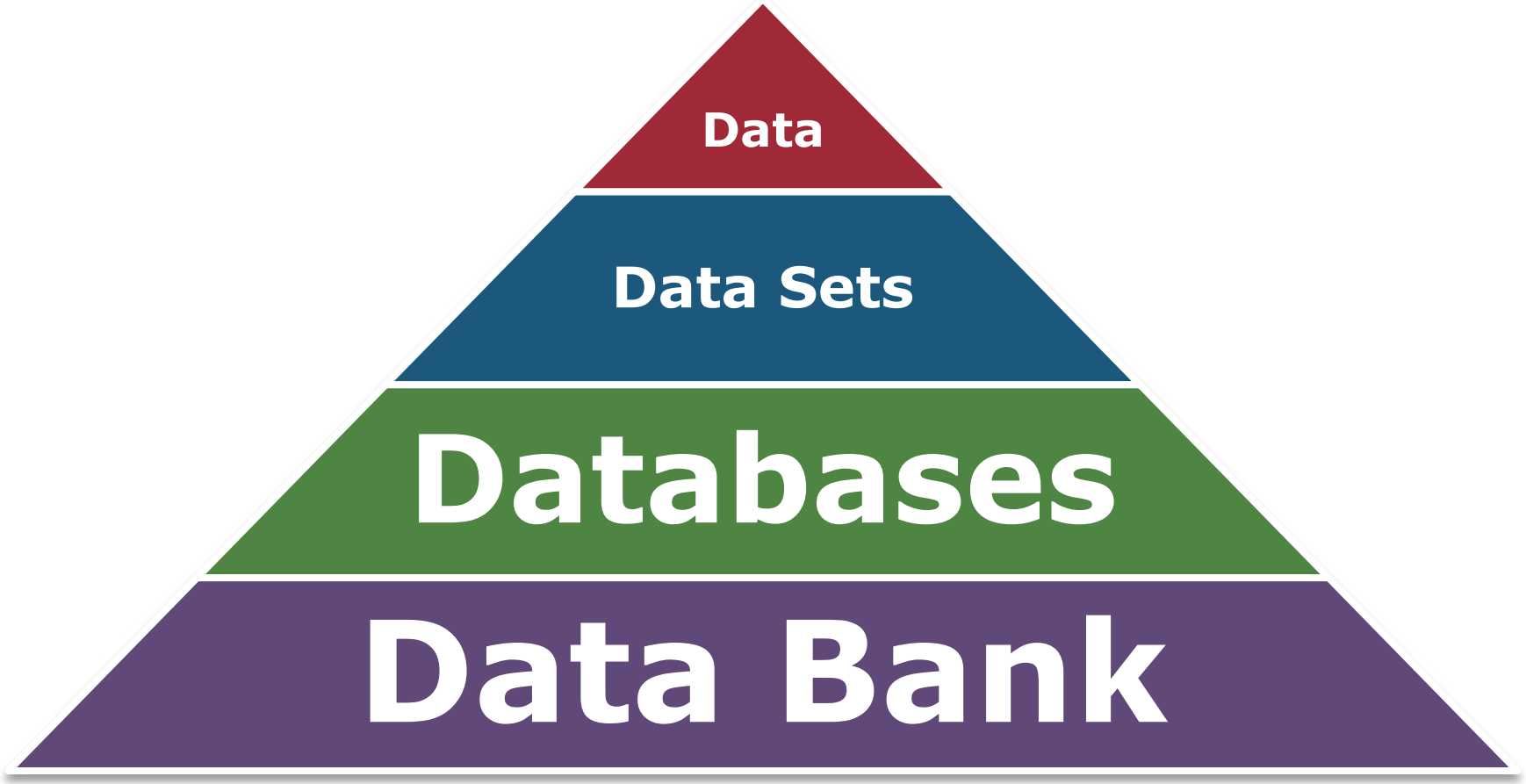
The Flow of the DMS concept



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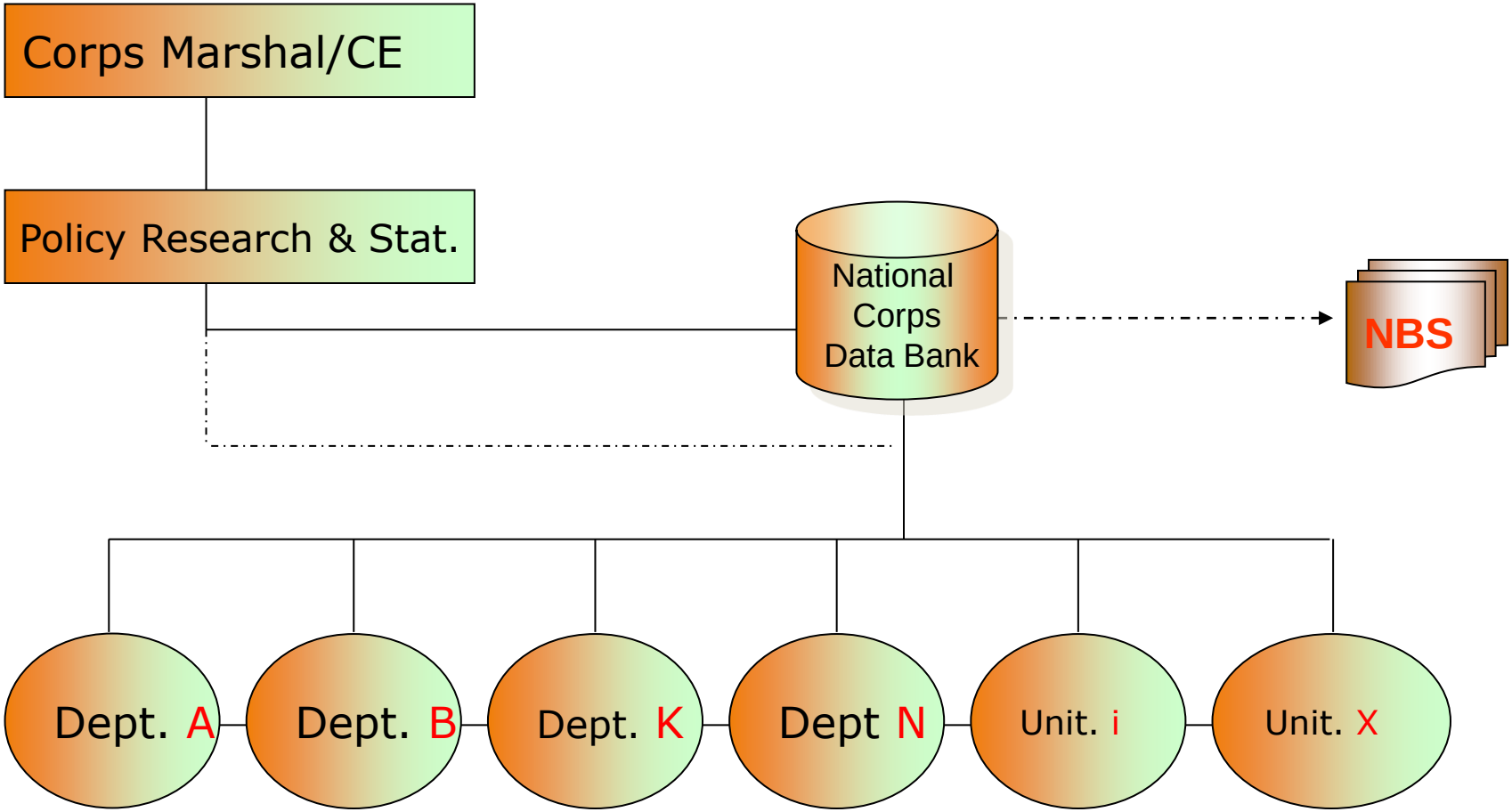
Example of LAN within FRSC HQ



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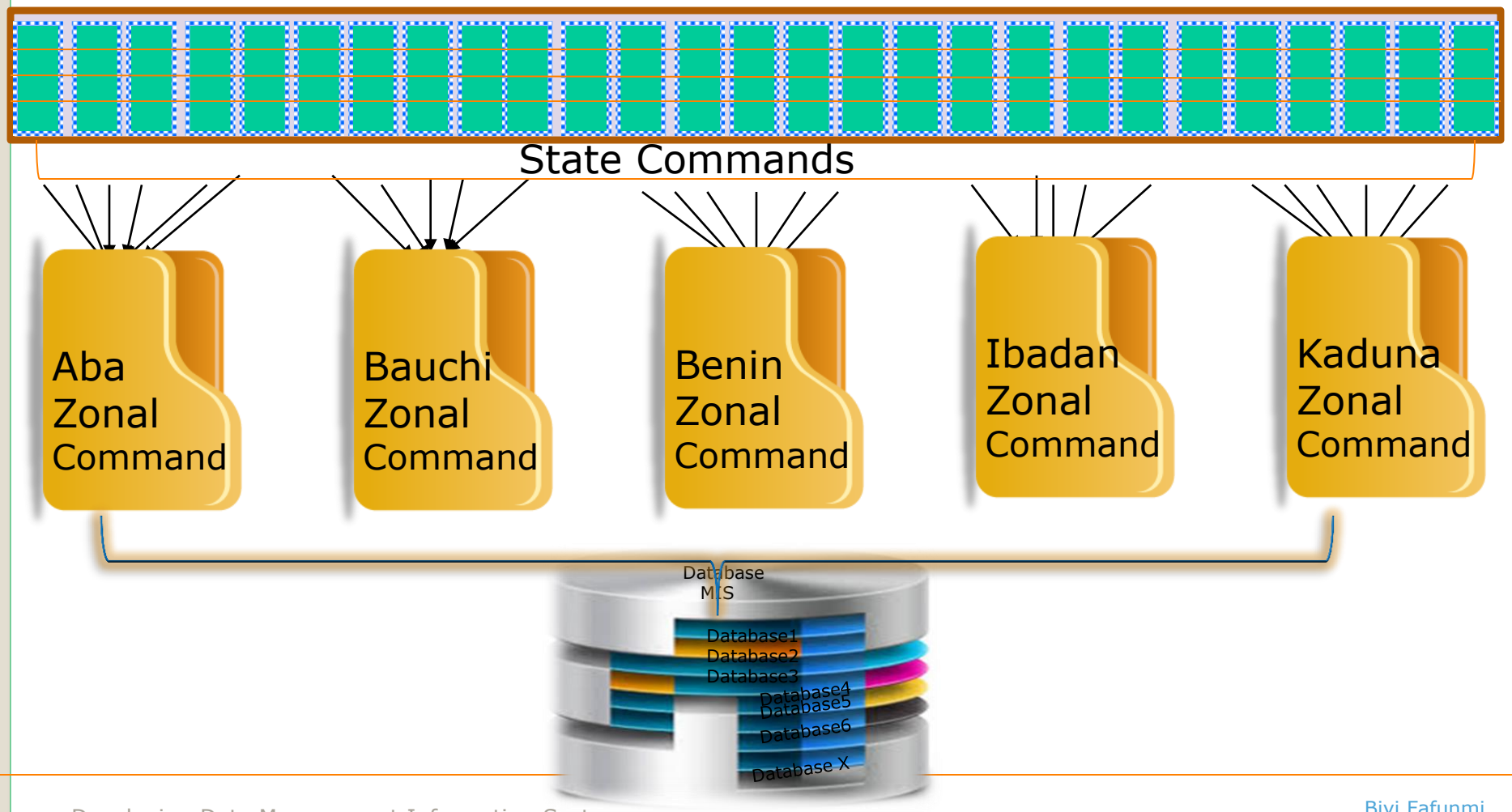
Example of Interconnectivity between Commands



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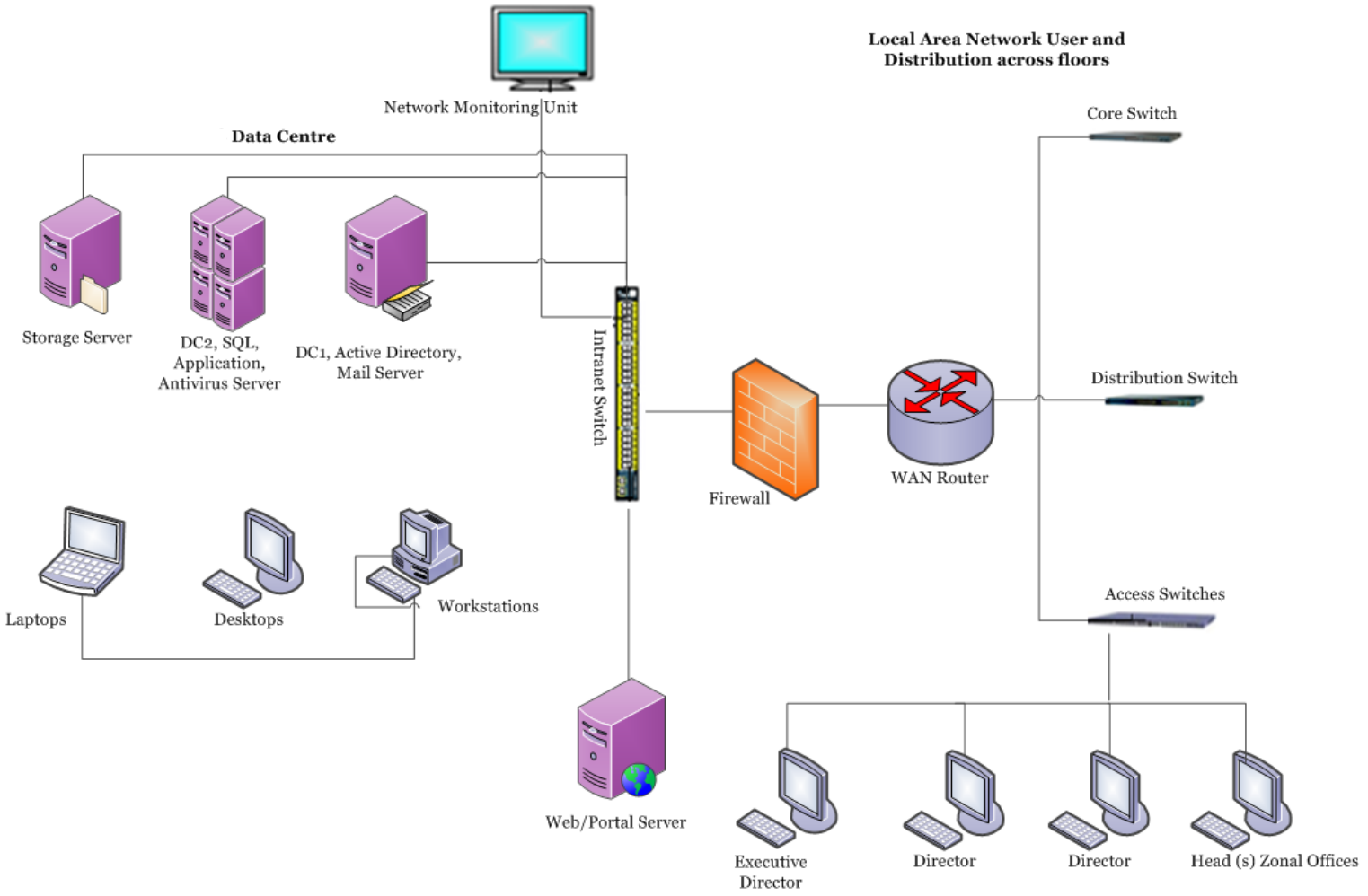
Example of DB/DC Architectural Design



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Example of a typical Command/Sector Offices VPN Design

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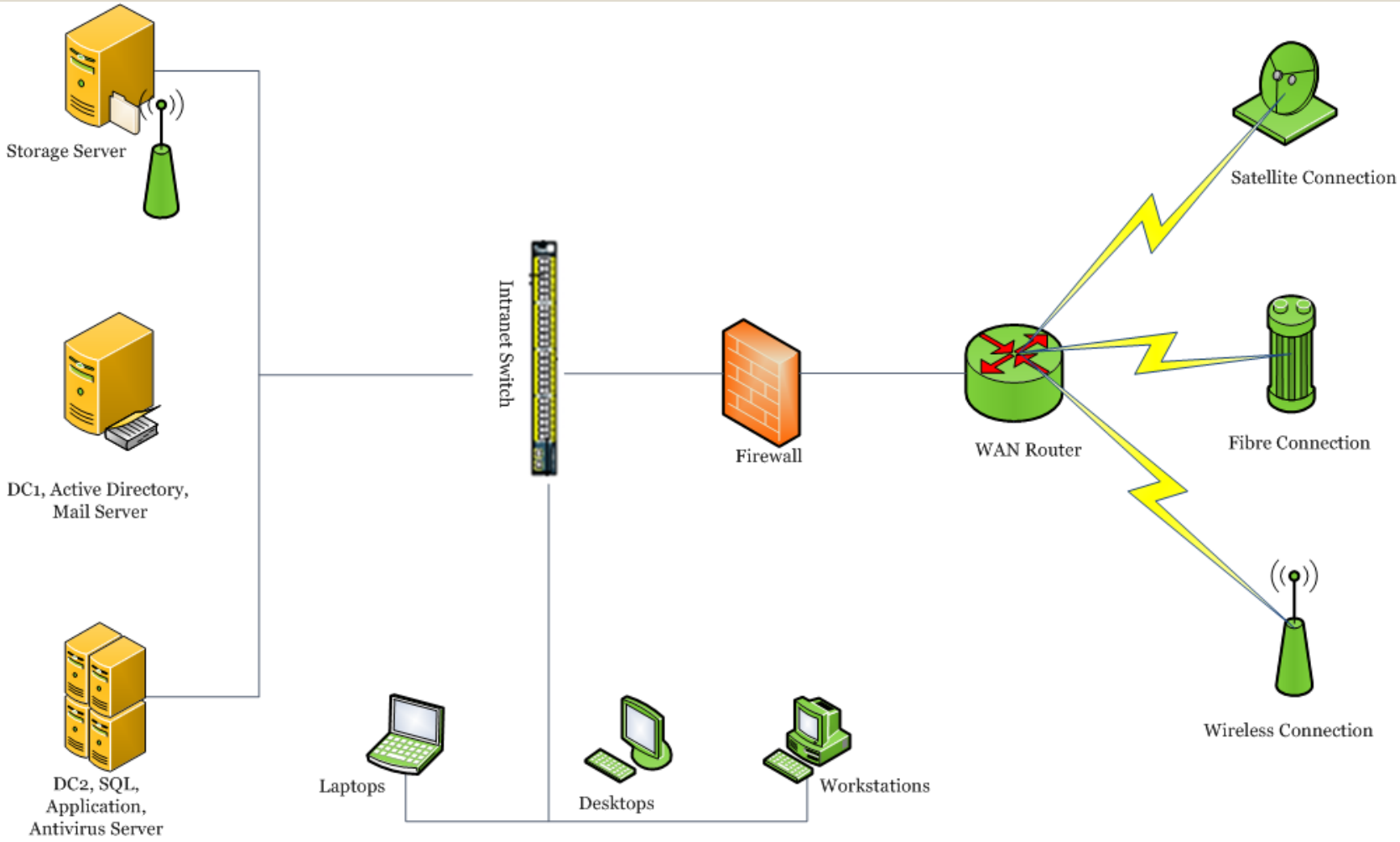

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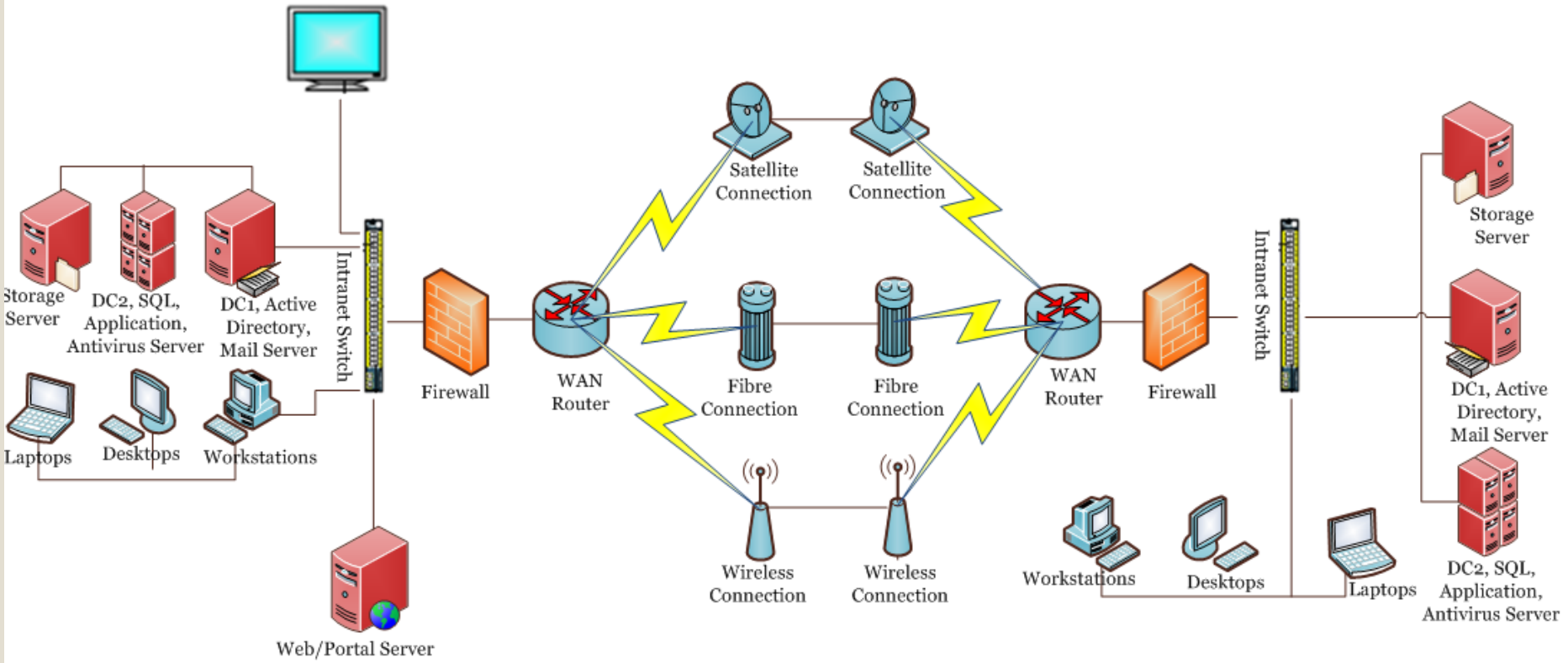
Example of a typical link between Coorps HQ DB/DC and its Sector Commands/Units Sites



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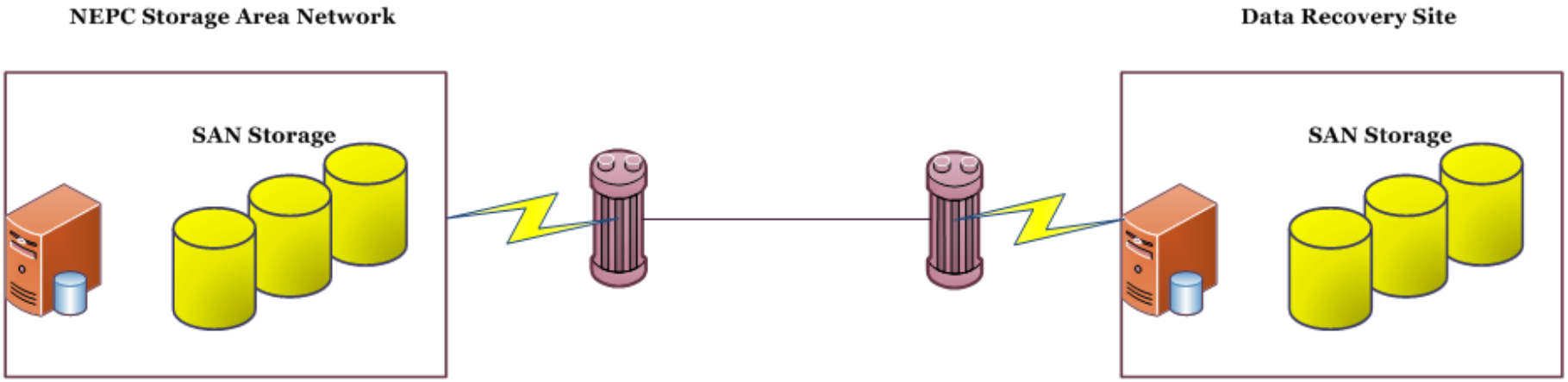
Develop a Corps Disaster Recovery System



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Software: Determine the Appropriate Software

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Software for Data Management

- Micro data
  - Household
  - Individual

  } Microdata Toolkit

- Time Series Data
  - Oracle
  - MS SQL
  - Access
- Spatial
  - ArcGIS, GeoMedia etc.
- Specialized
  - Customized e.g. Business Process Intelligent Sys.

Software for Data Analysis

- There are many Statistical Analysis Packages available today,
- From simple to complex and robust analysis
- SPSS, SAS, STATA, Statgpahics, E-view, Shazam
- Mapping and Spatial Analysis e.g. ArcGIS, Arview, Geomedia

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Users Cosideration:

Develop Strategy for Dissemination to meet users' need

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Identifying users

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- Who are your users
  - Decision makers (government at central and local level, businesses)
  - Academia (institution that use, research and analyze data)
  - Educational (primary, secondary, tertiary)
  - Public at large (media, individual, etc.)
  - International Organisations

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Users need - Considerations

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Data Sharing

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NBS Experience and the Existing Approach

- Fundamental Principles of Official Statistics
- National Strategies for the Development of Statistics (NSDS)
- General Data Dissemination System (GDDS)
- SDMX – Statistical Data And Metadata Exchange
- GIS
- etc.

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NBS Experience: Press Conferences

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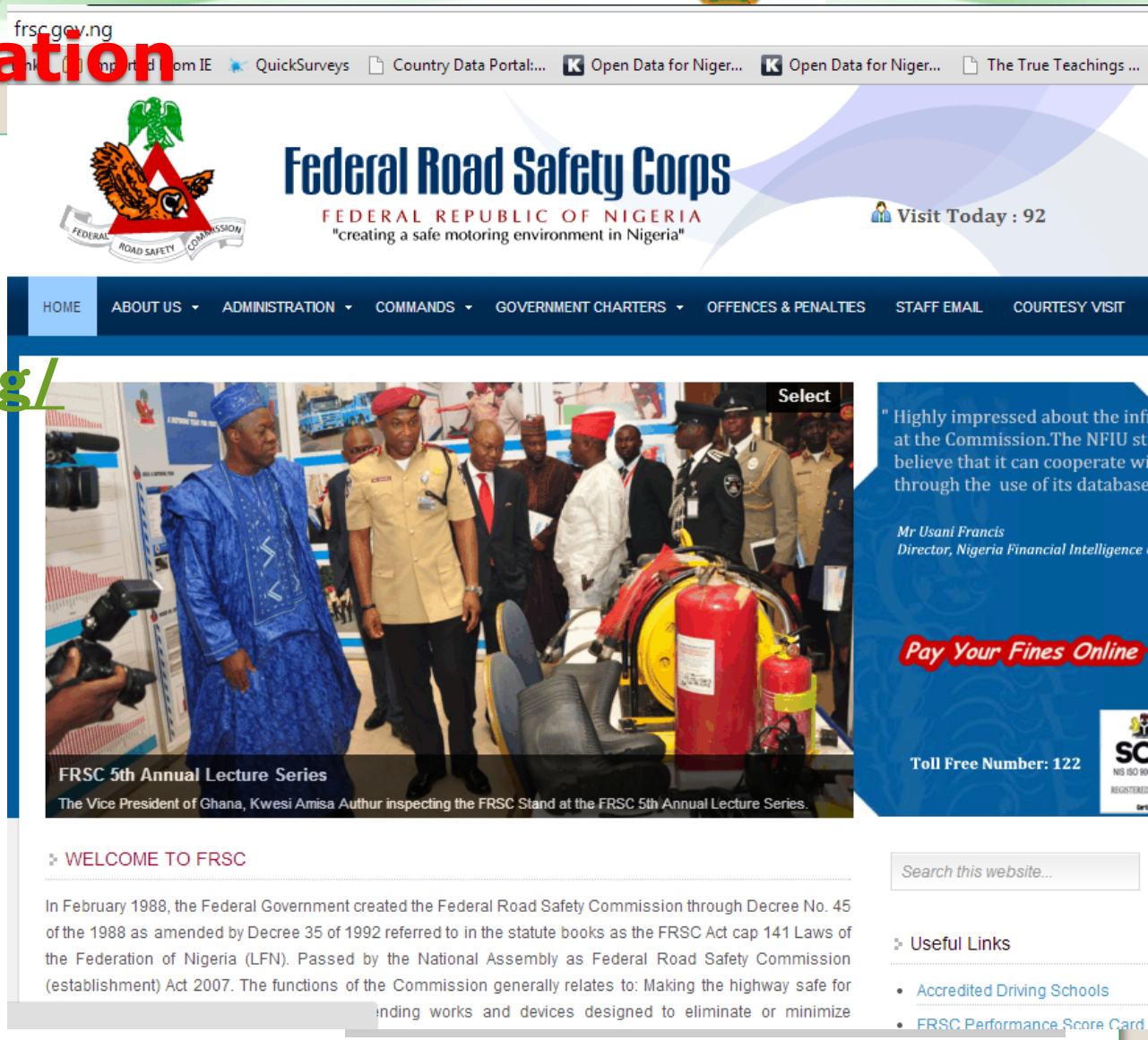
Web Portal for Data Dissemination

http://frsc.gov.ng/



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Data Portal

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- Improve coordination within the Corps Traffic Data Management System
- Make access to Road Traffic data easier and faster
- Reduce data request burden
- Open Data

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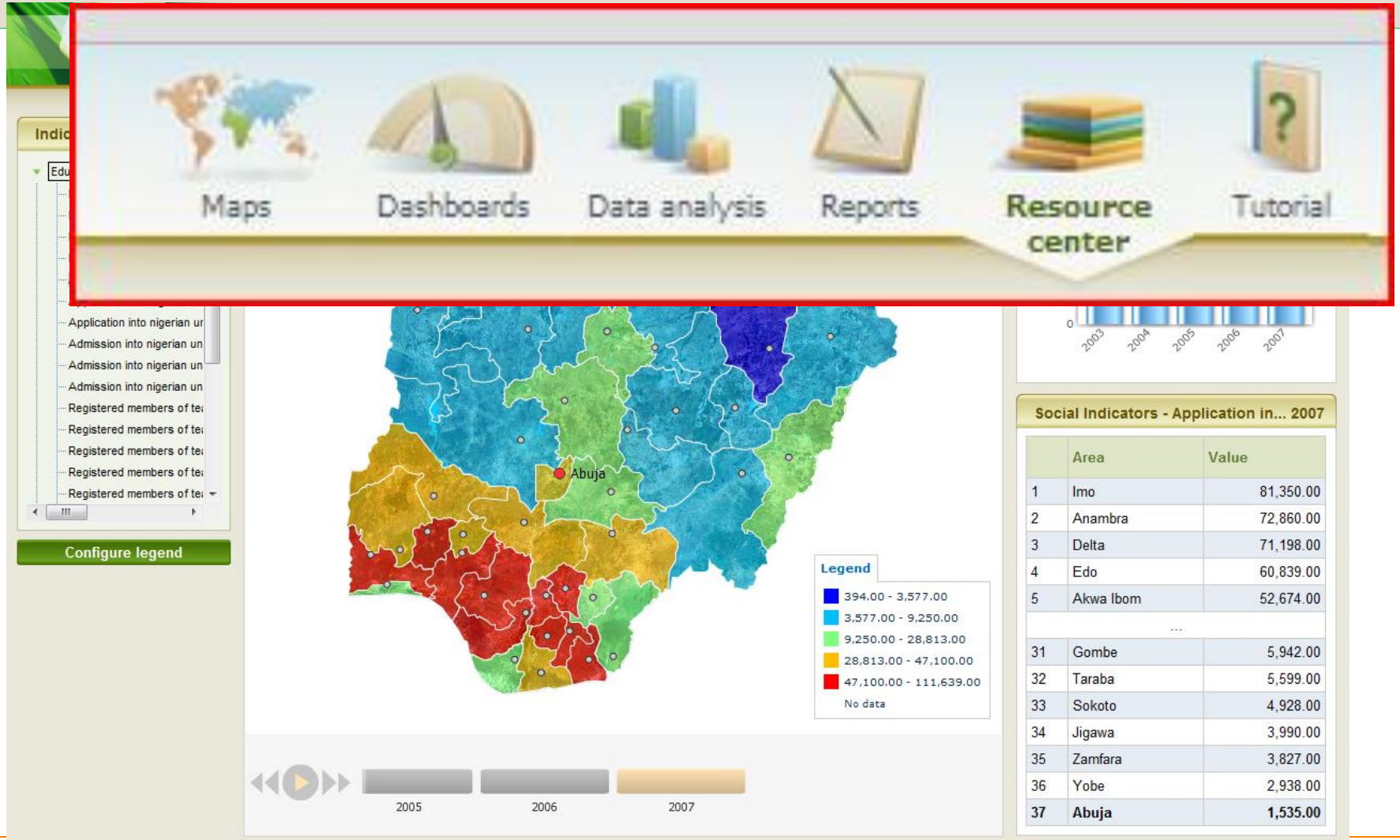
Key Feature of Data Portal



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Open Data Platform

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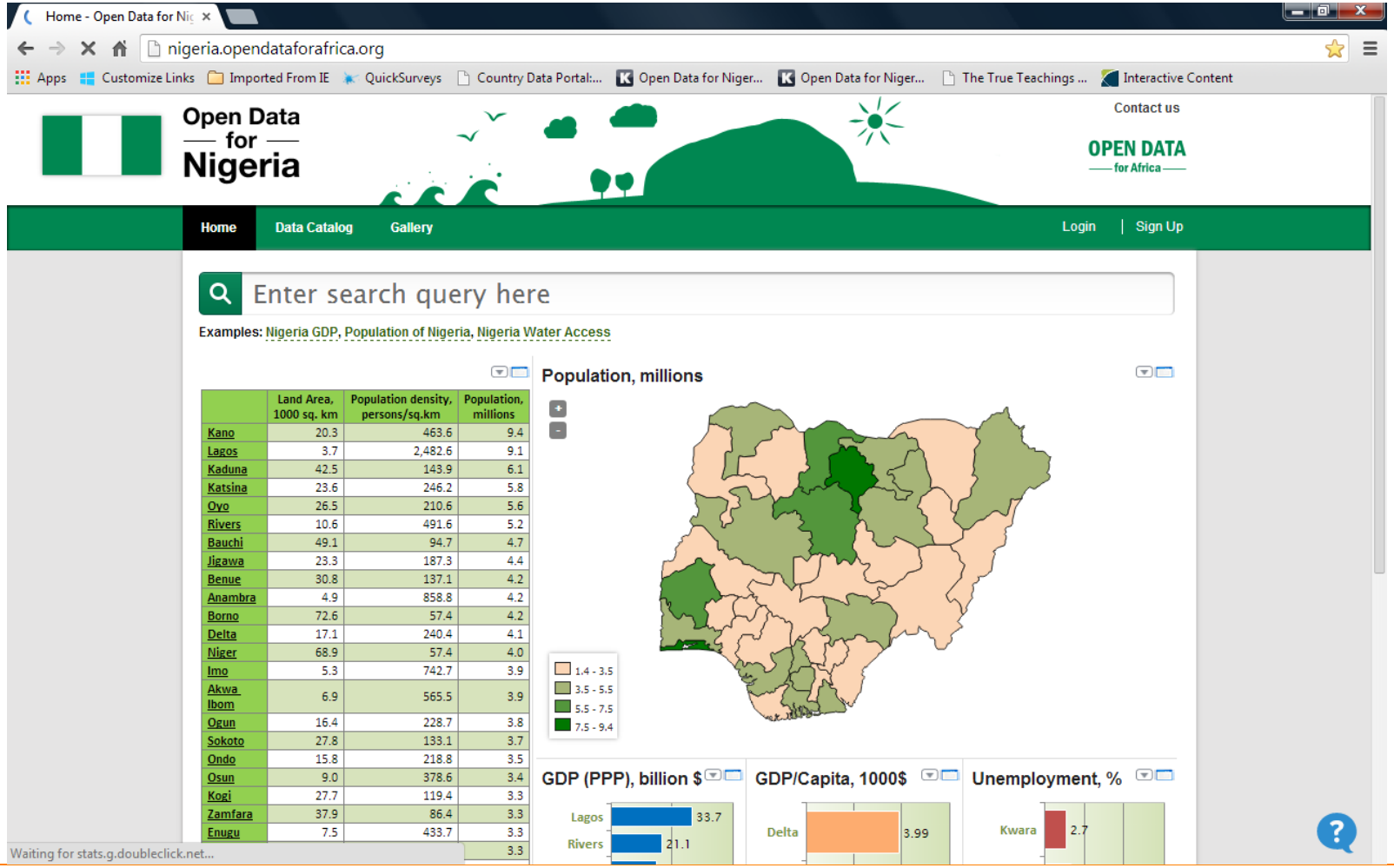

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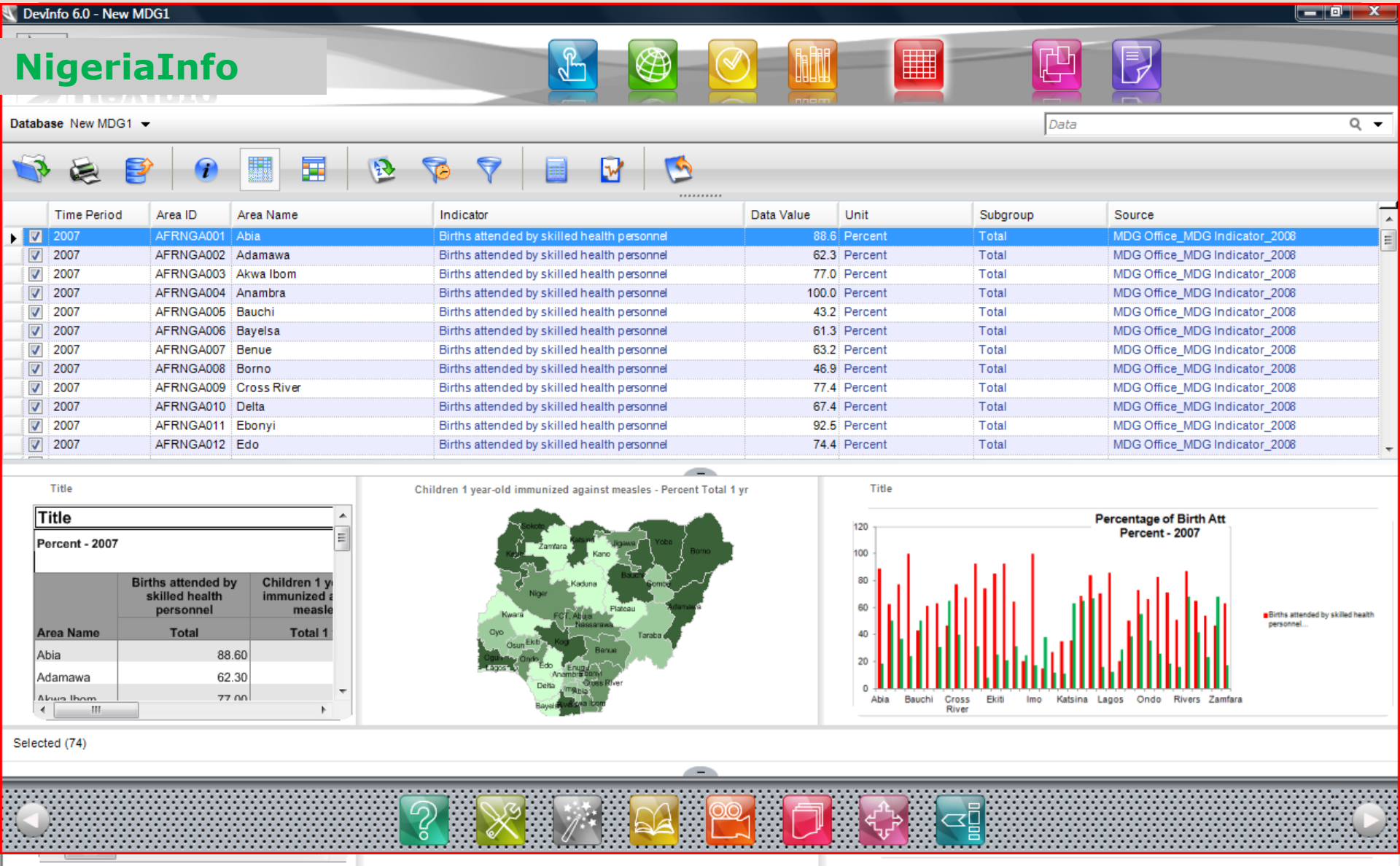
Easy interpretation of data in spatial format

tables, maps, graphs

NigeriaInfo



Benefits: Develop Strategy for Coordination, Data Quality Check and Dissemination

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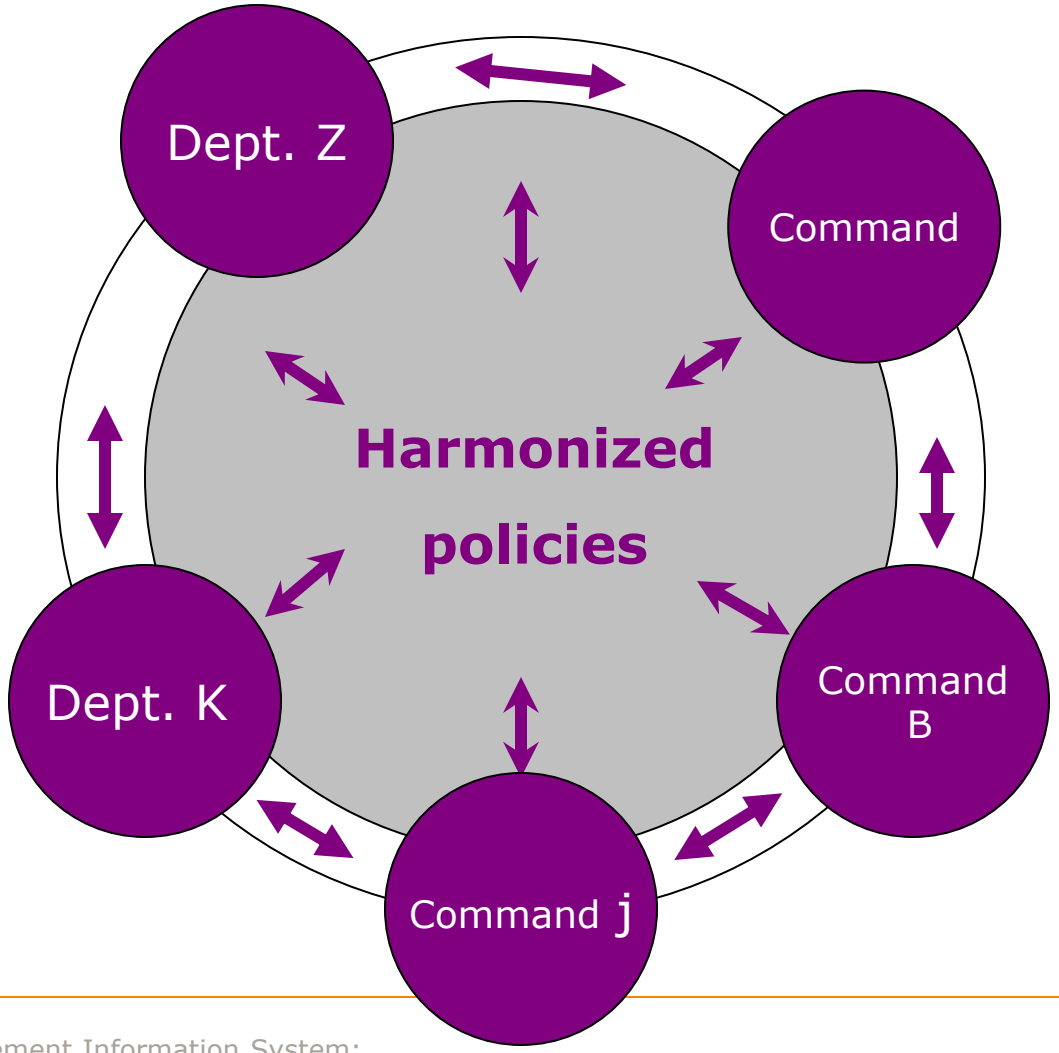
Fully coordinated statistical system



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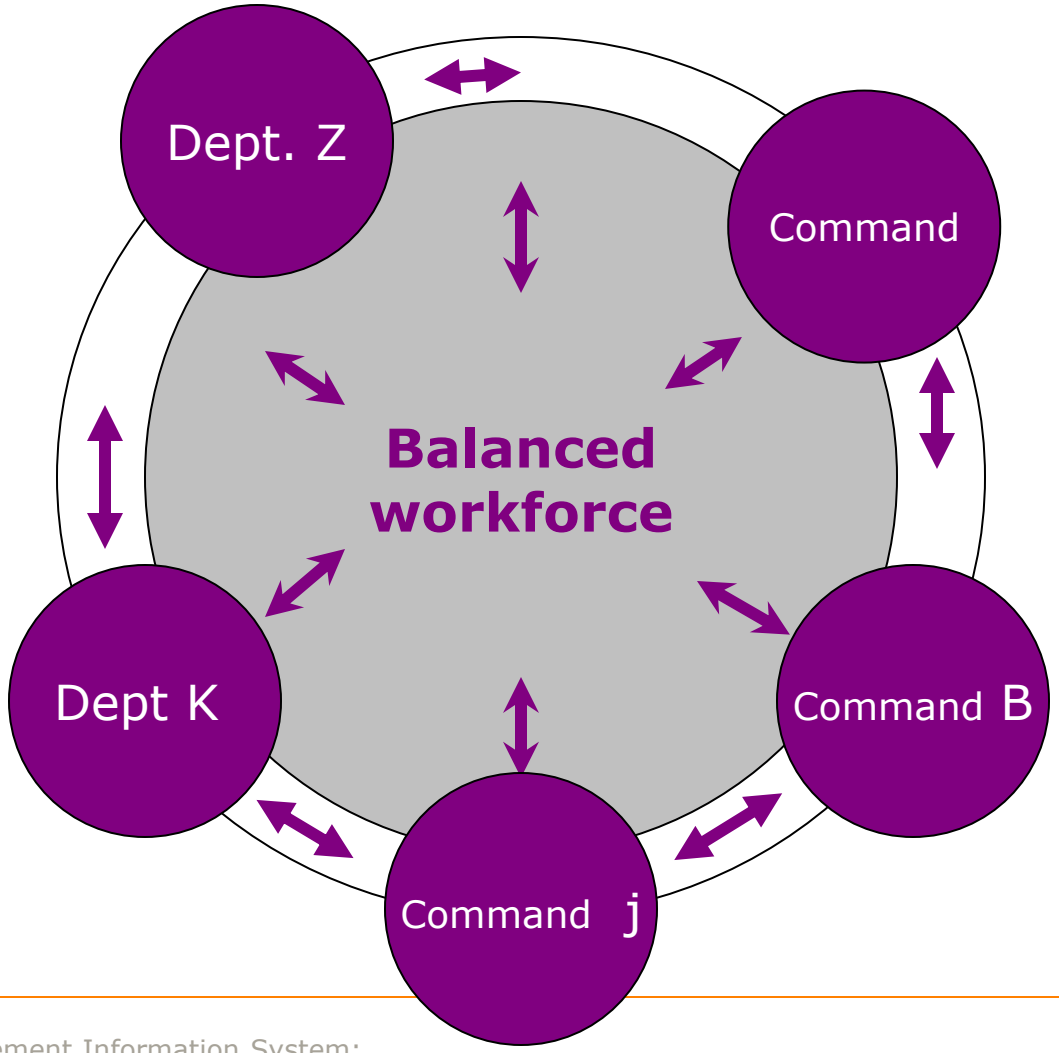

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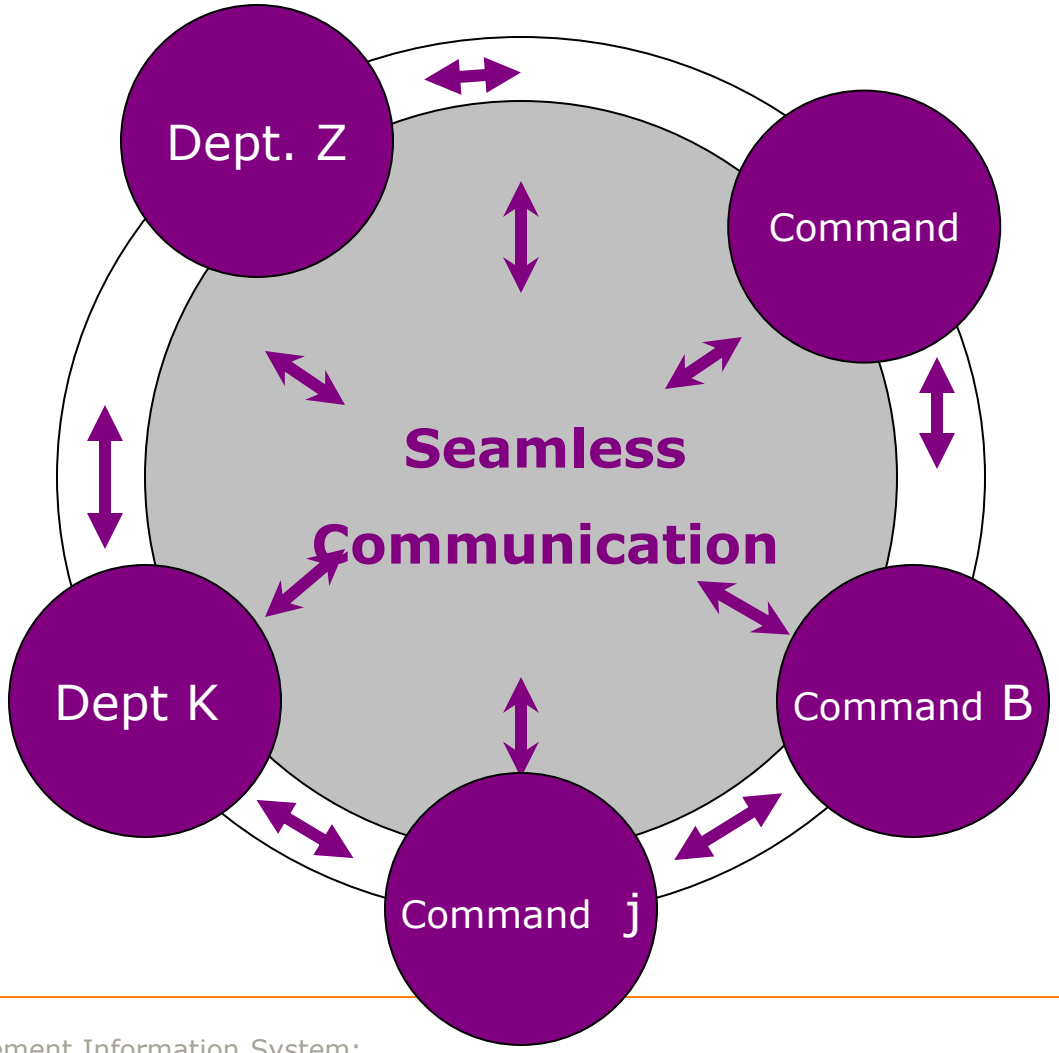

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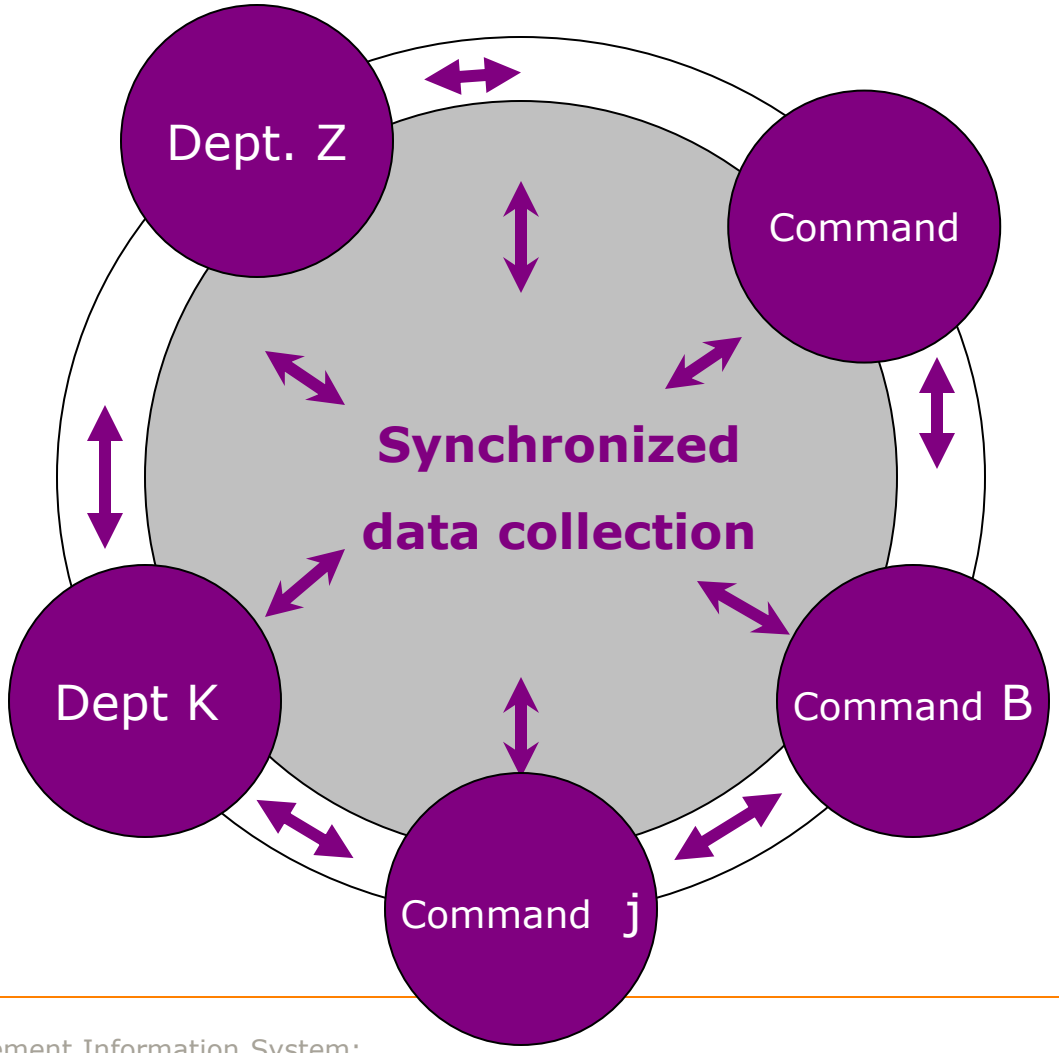

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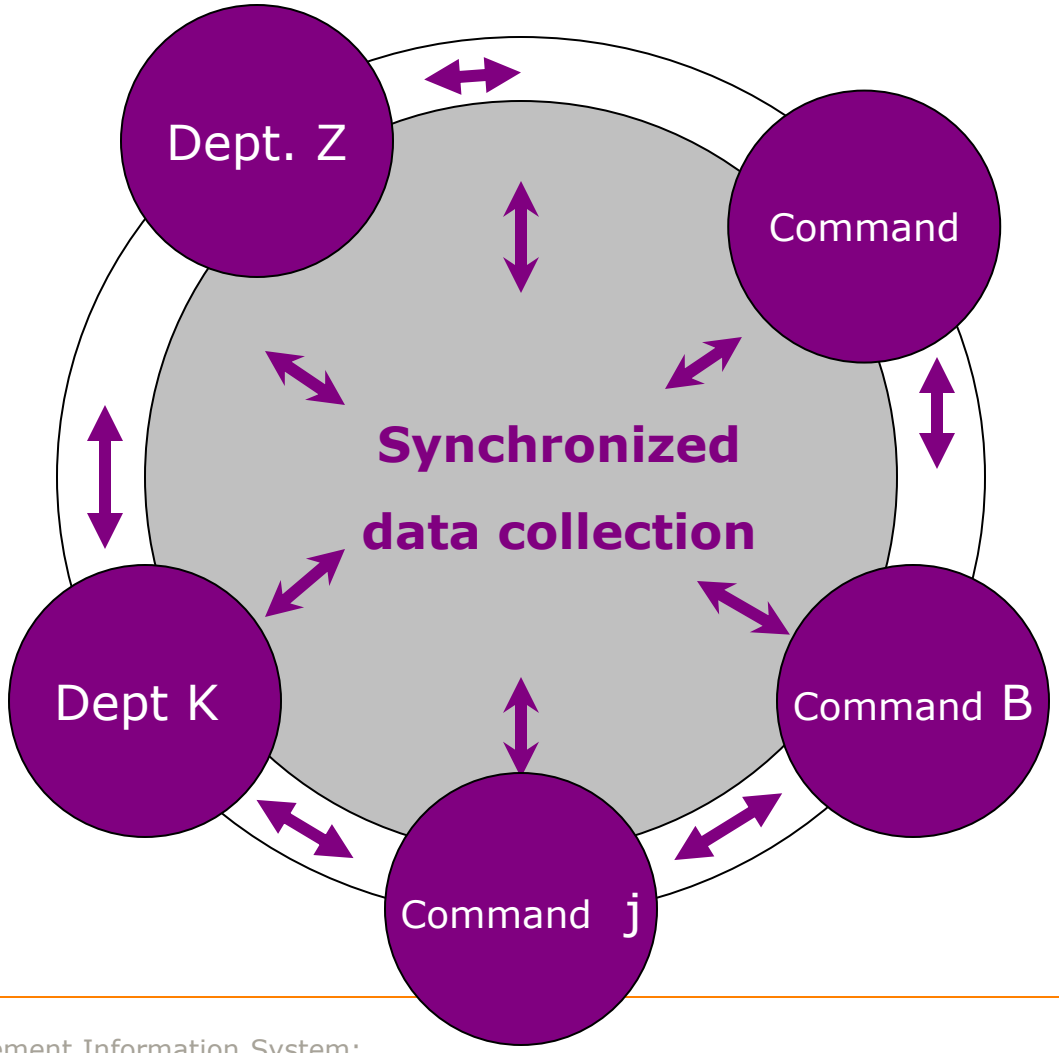

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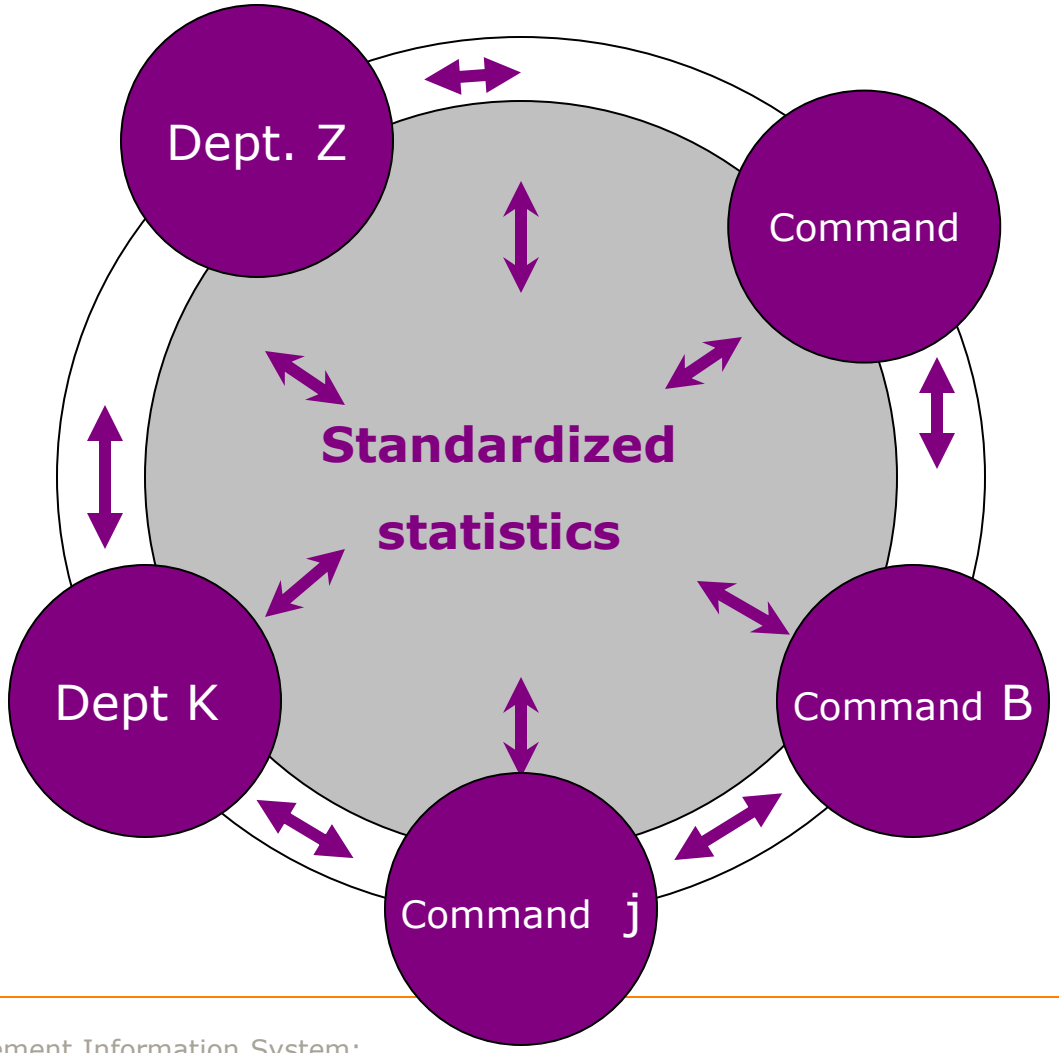

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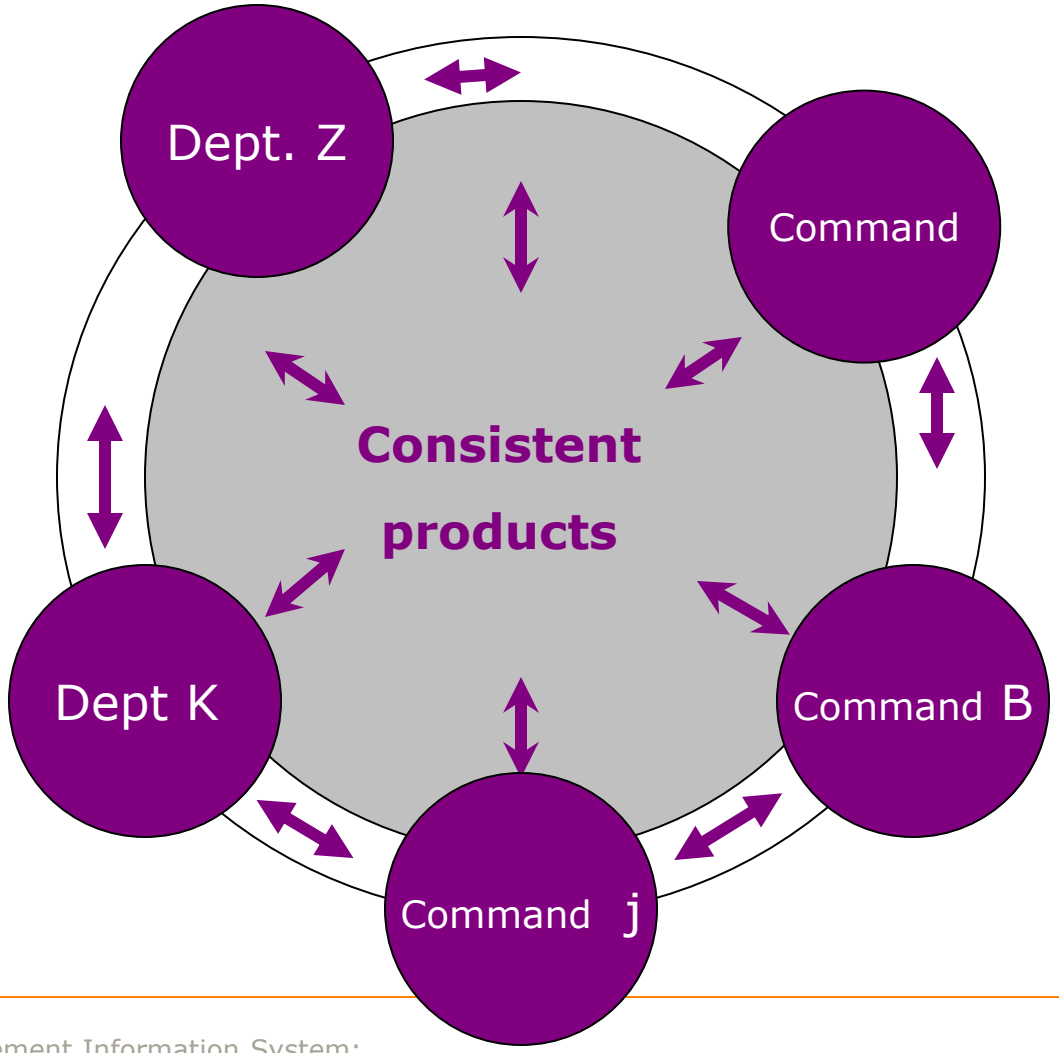
Fully coordinated statistical system



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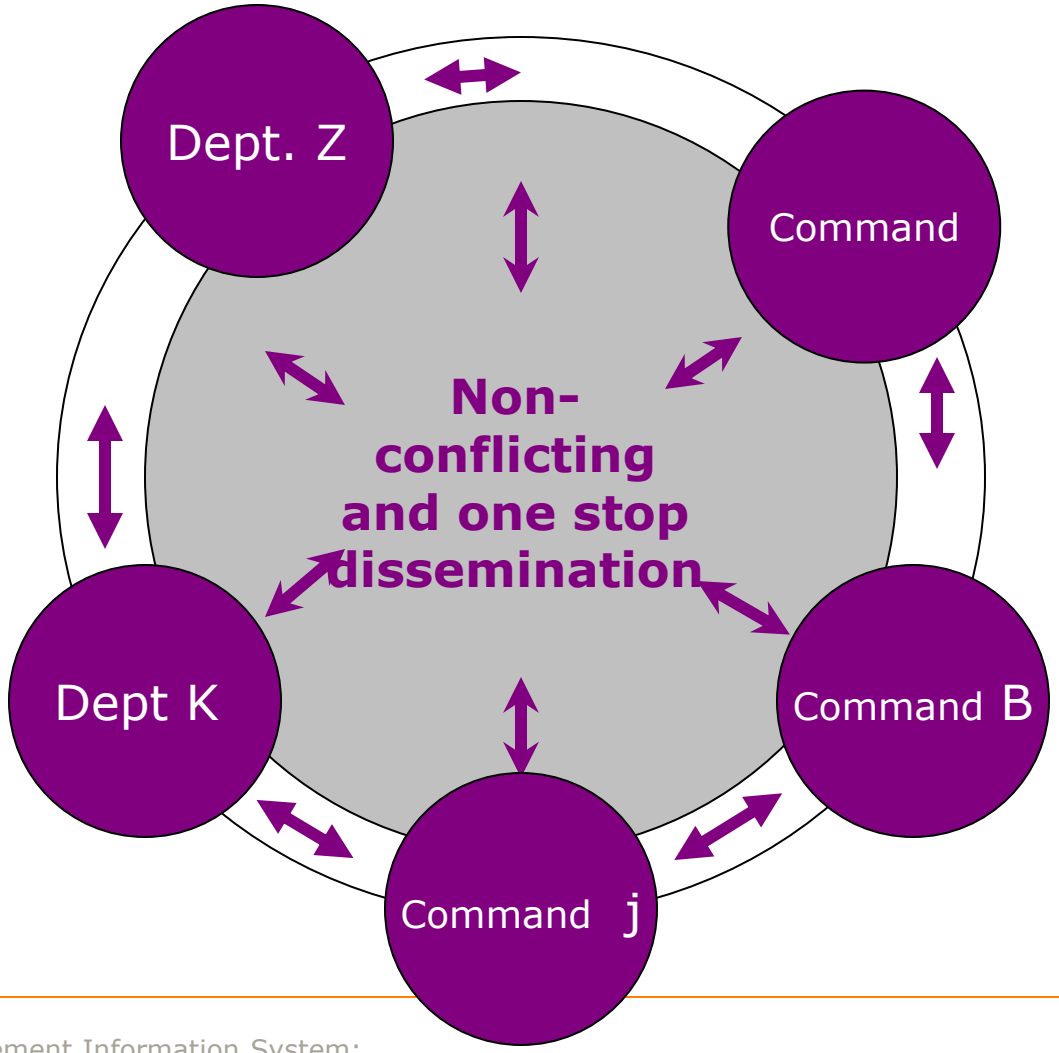

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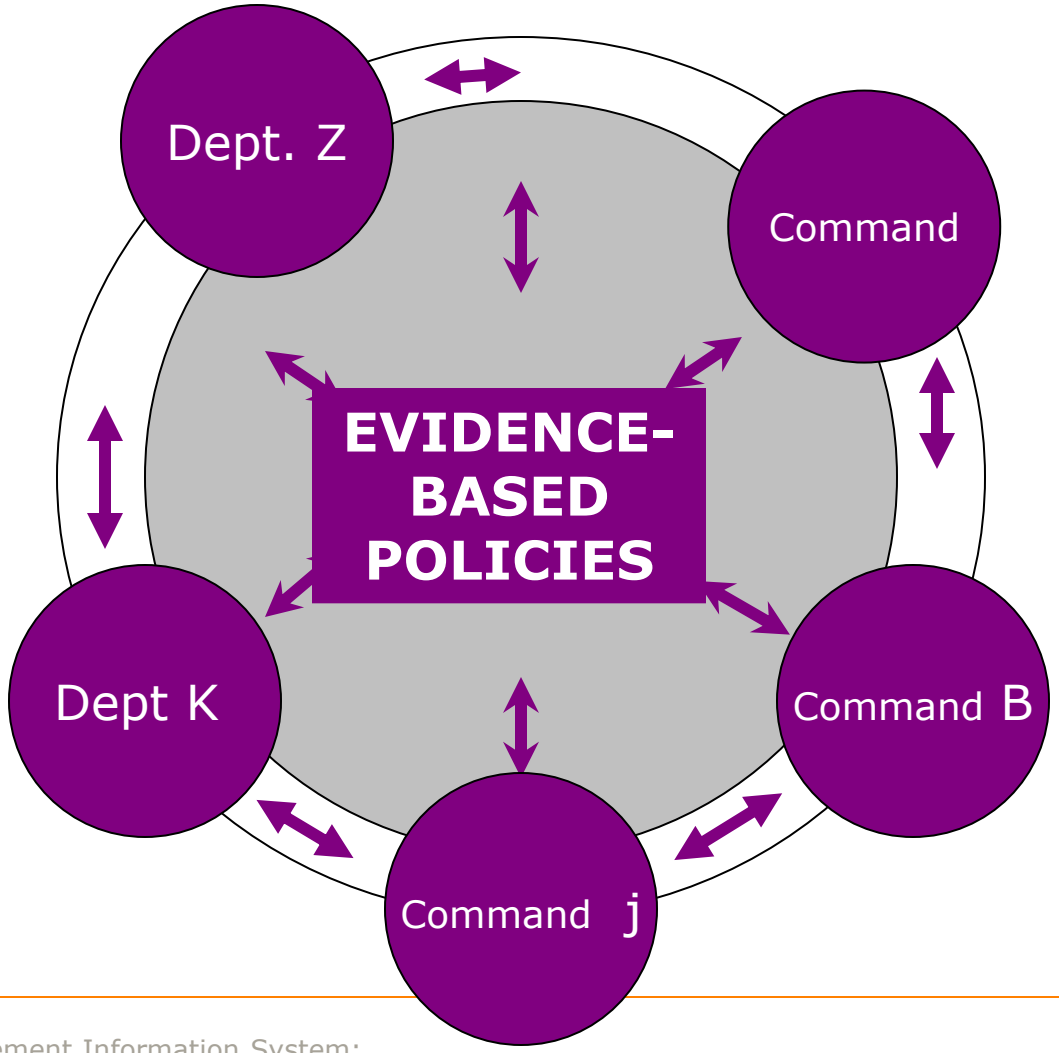

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Data Integration:
Develop a System of Data Integrating

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Areas of Integration

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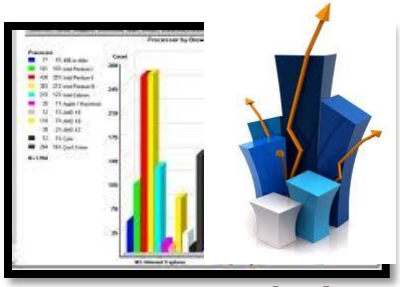
Planning

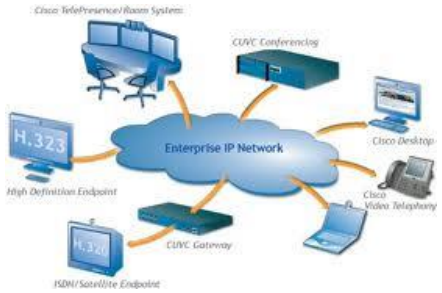
Data Collection

Processing /Storage

Management



Data Analysis



Networking

Conferencing

Exchange Dissemination

Data Archiving

Integration with others

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- Ministry of Transport
- Ministry of Works
- National Bureau of Statistics
- Nigerian Police
- VIO
- Ministry of Information Communication Technology
- Space Agency
- etc

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Humanware

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Humanware

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Challenges

- Poor data recording, storage & dissemination system among data producers
- Limited ICT skills to management Data
- High Cost of ICT infrastructure and uses for Data Production
- General poor funding of Data Management Activities by Government in various sectors

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Conclusions

- Data Management is critical and should be seen as essential tool for institution Development
- Will to support Sector Data Management by top echelon of the Corps is none negotiable
- *High Application of ICT Tool is key*
- Collaboration with other sector is very important and be encouraged
- International best practice should be followed web

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Conclusion

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PAST Century way

Don't FIX broken PROCESS

21st & Future Way

Just CREATE NEW Ones

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Thank U

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