



# **Data Science – A case of Rwanda**

**5<sup>th</sup> International Conference on Big Data for Official Statistics  
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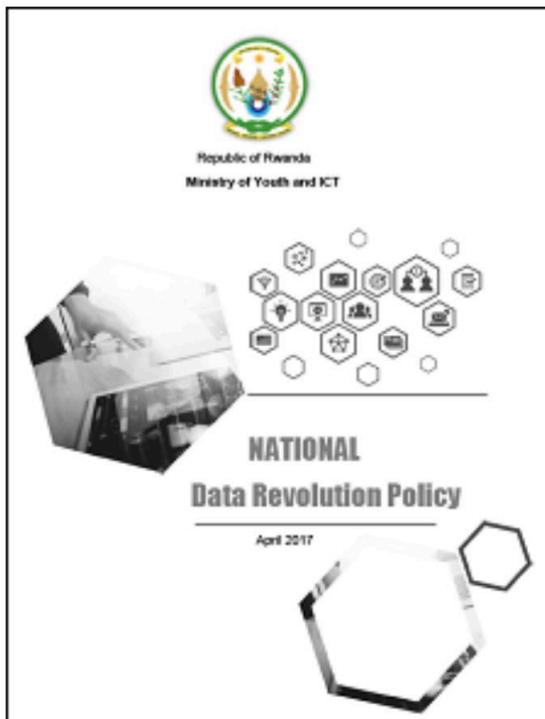


# Outline

1. NISR mandate
2. Progress made
3. Future Plans
4. Challenges & Opportunities

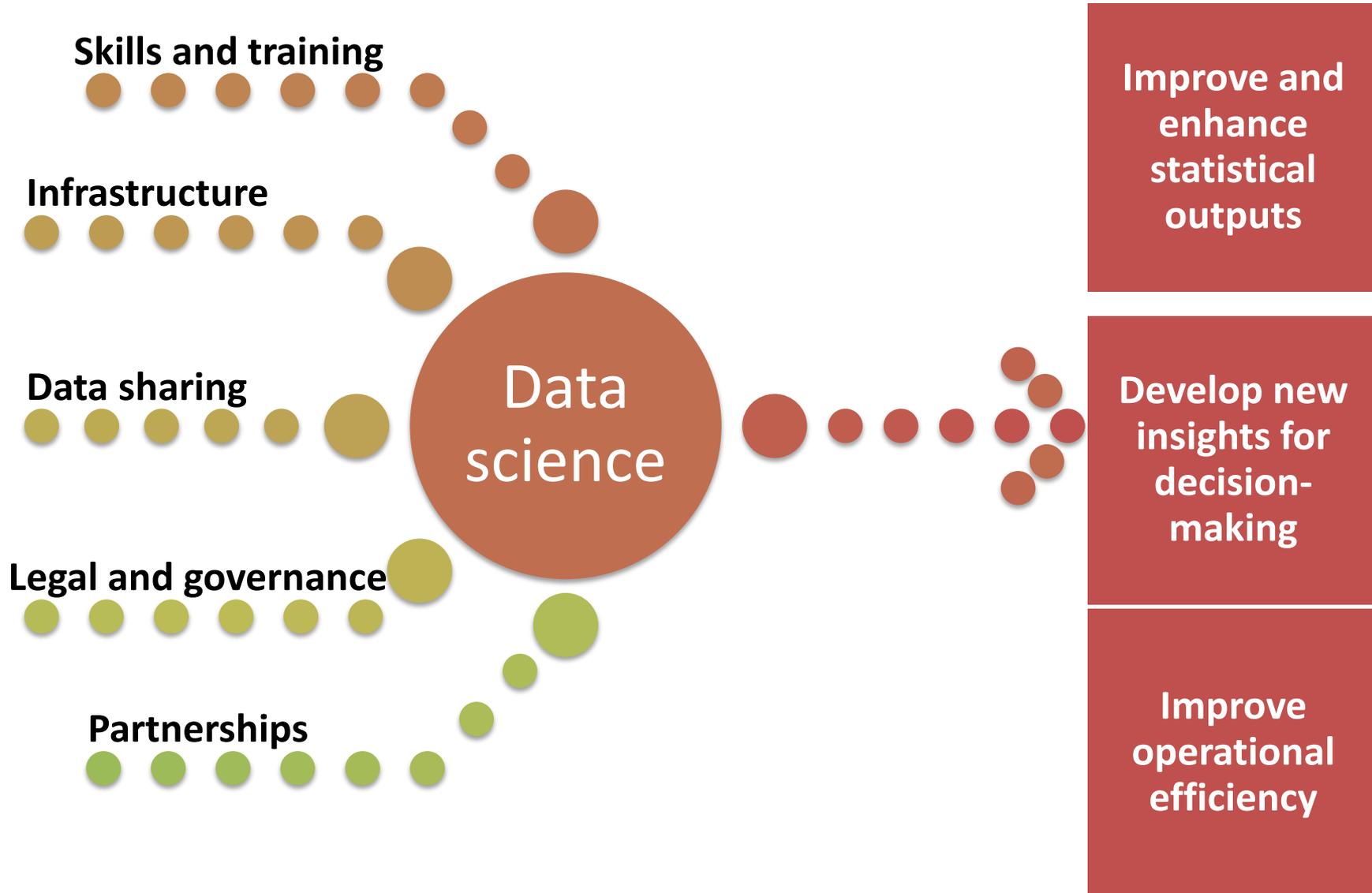


# 1. Mandate of NISR in implementing Data Revolution Policy (DRP)



- ❖ **DRP approved by cabinet in April 2017**
- ❖ **NISR mandated to lead the implementation of the Policy by;**
  - Manage the data supply chain,
  - Manage capacity-building activities,
  - coordinate compliance with data privacy and confidentiality standards.
  - etc

# Focus of NISR in implementing DRP





## **2. Progress made – Data science capabilities**

- Building partnerships
- Capacity building
- Piloting projects
- Infrastructure set up
- Legal framework



# Partnerships – Data Science capabilities

- a) Office of National Statistics of UK
  - Training, Data science projects, Legal review, IT systems
  
- b) Universities
  - AIMS, University of Rwanda, Carnegie Mellon University
  
- c) Government & Private institutions
  - Central Bank, RRA, RURA, RSSB, Banks, etc



# Capacity building – Data Science

- a) Working with Universities to deliver relevant short courses, and long term courses
  
- b) Partnership with ONS to offer programming skills, develop projects
  
- c) In house & Institutional sharing of knowledge
  
- d) Exploring other partnerships



# Projects – Data Science capabilities

- a) NISR Reproducible Analytical Pipeline (RAP)
  - Creating reproducible code to streamline a repetitive process such as a statistical processing system
  - It can be used to produce statistical tables, update publication documents, and much more
  - Training staff to read and write Python code to apply these methods across NISR
  
- b) Financial sector transactions



# Legal framework– Data Science

We aim to have complimentary legal guidelines to facilitate secure data access and sharing

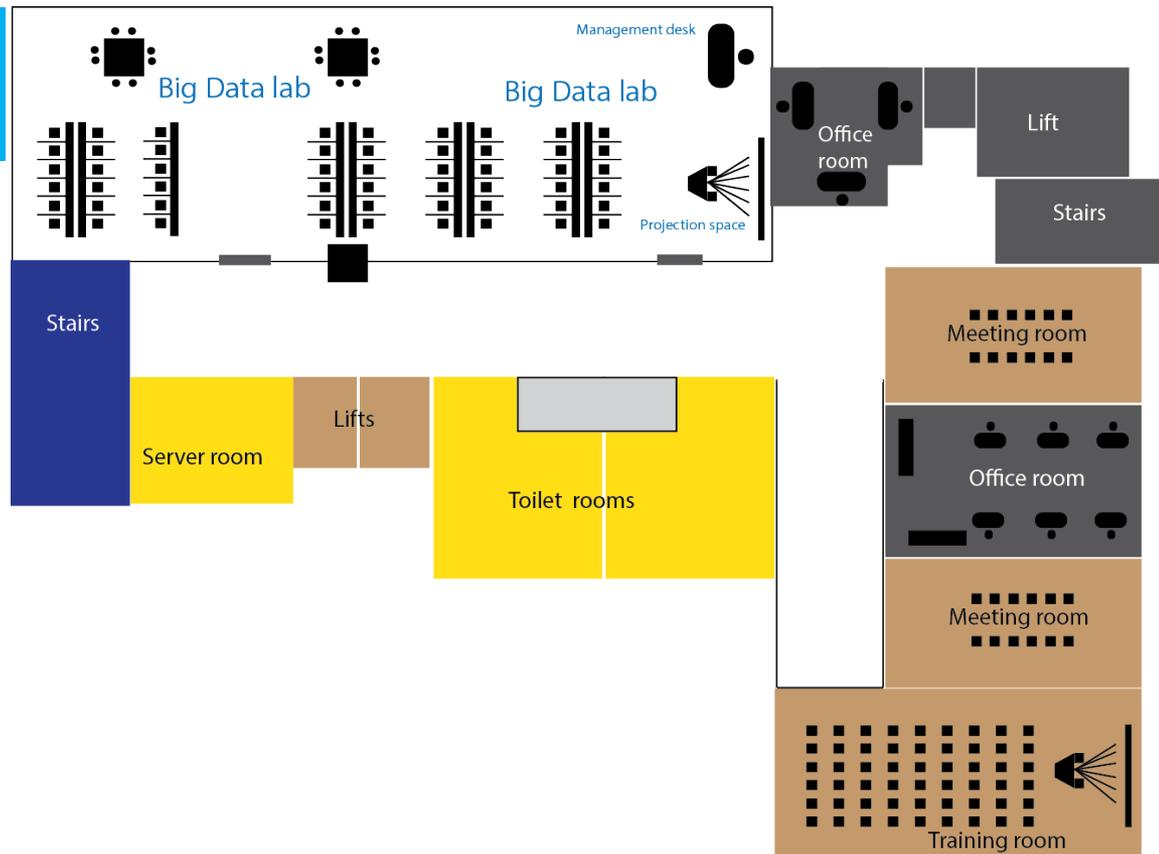
- a) Review of NISR law in light of big data assess and sharing
- b) Review of relevant laws on data access, sharing, confidentiality





# Infrastructure – Data Science capabilities

## Data Science & training center





# 3. Future Plans – Data Science capability

National Strategy for Development of Statistics (2019/20 - 23/24)

**Pillar 2:** Lead a National Data Revolution to deepen statistical impact





# Future Plans – Data science

## 3 Major objectives:

- I. Harmonize best practices in data governance across the NSS
  - Sector governance frameworks
- II. Enable data openness, integration and interoperability through legal/policy frameworks
  - Policies for data sharing, standards/guidelines for data protection and ethical use
- III. Equip and operationalize a public Data Science Campus to facilitate data access and innovation
  - Equip DSC, the Recruit staff, projects, outreach initiatives,



## 4. Challenges and Opportunities

- ❖ Limited skills & capabilities across government in data science
- ❖ Limited resources
- ❖ Limited understanding across stakeholders
  
- Partnerships for capacity building
- Availability of Infrastructure
- Availability of data to work with
- Related developments such as AI research center



# Conclusion

- It is still work in progress
- It is worth (now!)
- Statistics Offices are based placed to lead
- There are cases to learn from
- Leadership ownership
- Partnership/collaboration



**Thank you**