LAYING THE FOUNDATION:
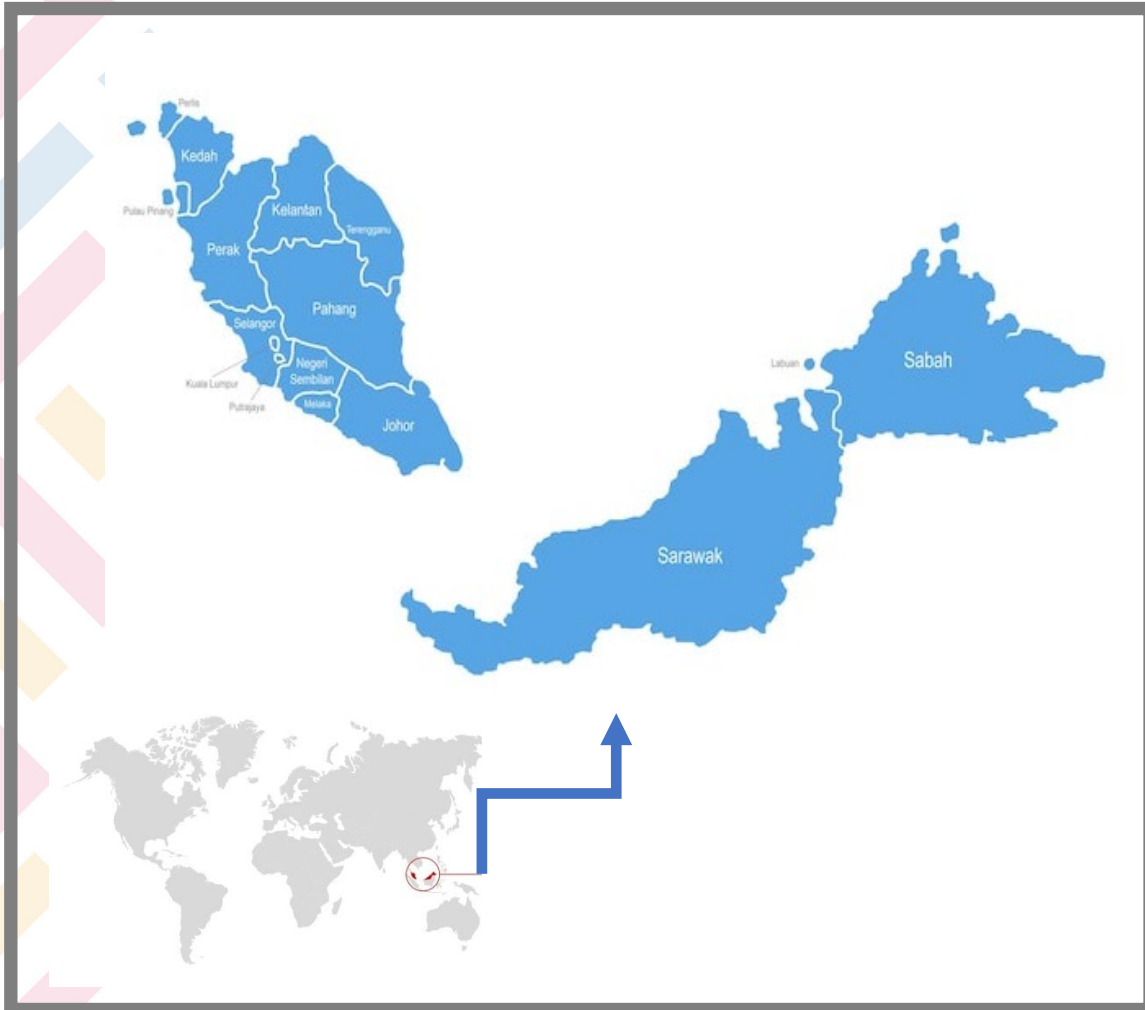# MALAYSIA'S EARLY EXPERIENCE WITH MOBILE PHONE DATA

World Telecommunication Indicator Symposium 2024

24 September 2024

Mobile Broadband in Malaysia: Key Statistics at a Glance
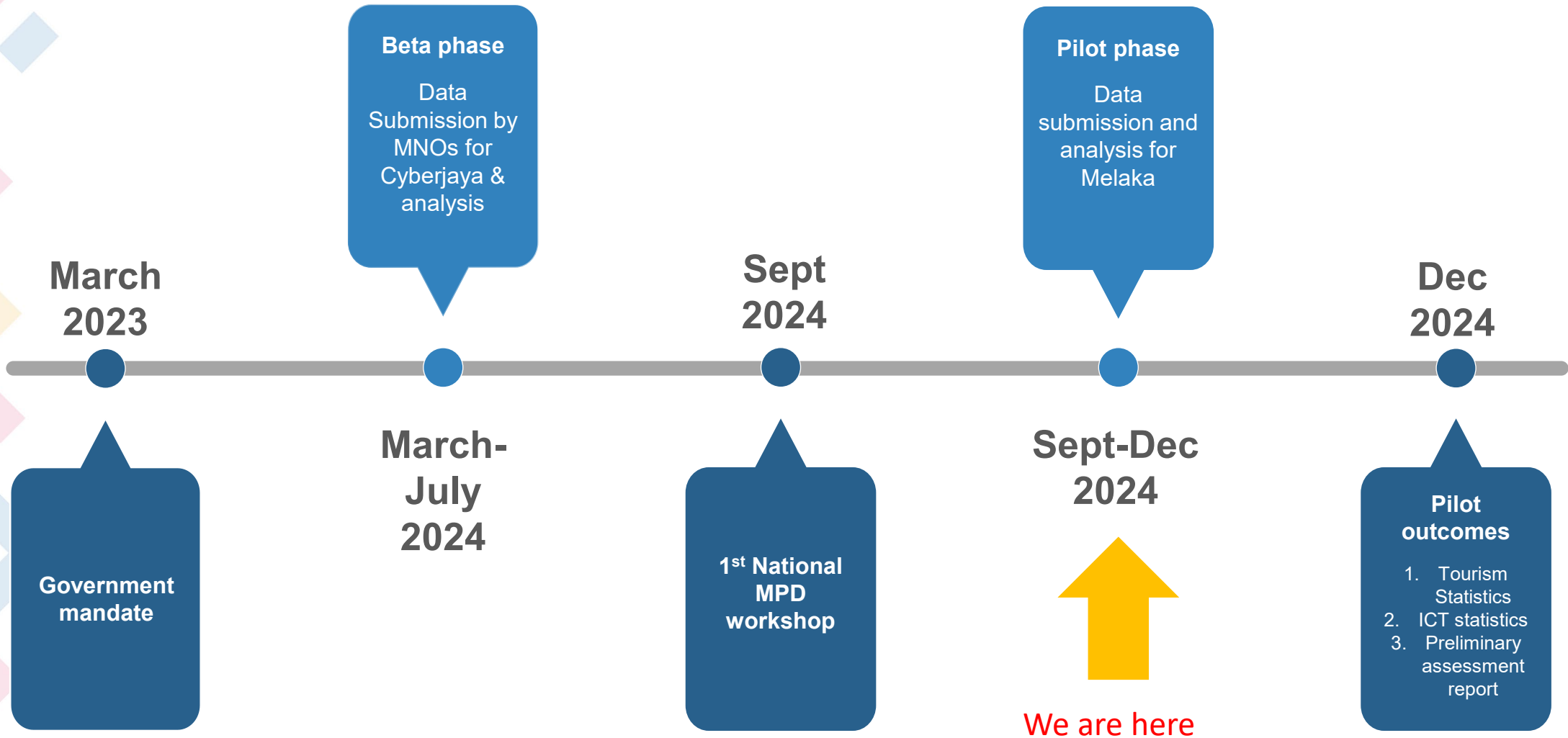

34.1 mil

4G:97.3%
5G:81.8%

45.1 mil

132.5%

Transitioning to Success: Strategic Shifts in Mobile Phone Data Implementation

Experimental phase → ← **Implementation phase**

- Regulator & NSO approached individual MNO

- Obtained government mandate
- MPD as a National Project

2017-2019 **2020 -2021** **2021 -2022** **2023** **2024**

- ITU & UN approached Malaysia
- No serious action was taken, neither by the Regulator nor NSO

- Regulator & NSO begun formal discussion

- Obtained 1st MPD data from MNO
- Organised 1st MPD national workshop
- Deploying 1st MPD pilot project

- Bottom-up strategy
- No government mandate
- No cooperation from MNOs

- Top-down strategy
- Obtained government mandate
- Positive response from MNOs

3

Where are we now?

March 2023

Government mandate

Beta phase

Data Submission by MNOs for Cyberjaya & analysis

March-July 2024

Sept 2024

1st National MPD workshop

Pilot phase

Data submission and analysis for Melaka

Sept-Dec 2024

We are here

Dec 2024

Pilot outcomes

1. Tourism Statistics
2. ICT statistics
3. Preliminary assessment report

Legal Framework for MPD Implementation in Malaysia

Government Mandate :
MPD as a National Project

COMMUNICATIONS AND MULTIMEDIA ACT 1998 (ACT 588), REGULATIONS, RULES AND ORDER & MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION ACT 1998 (ACT 589) AND REGULATIONS
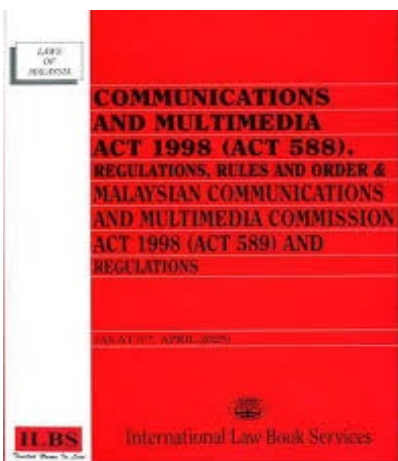
Source of Power to Collect MPD data from MNOs

Source of Power to Share MPD data to other Agencies

Interworking arrangement with other authorities

AKTA PERLINDUNGAN DATA PERIBADI 2010 (AKTA 709), PERATURAN-PERATURAN DAN PERINTAH & PERSONAL DATA PROTECTION ACT 2010 (ACT 709), REGULATIONS AND ORDER

Should anonymous data be considered as Personal Data?

Centralized and Coordinated Implementation Model

From Data	→	To actionable insight	From insight	→	To impact

DATA SOURCE

PROCESSING

ANALYTICS

PRODUCTS & SERVICES

- Event data;
- Network data

MNOs data

Anonymisation

- Cleansing
- Filtering
- Validation
- Normalisation
- Segmentation

Exploration, modelling & testing:
- AI/Machine Learning
- Statistics
- GIS

- Visualisation
- Selection
- Interpretation
- Reformatting

MCMC On-prem server

MCMC Data Warehouse

Analytics* Platform

Report

App

Visualisation

Decision Support system

DECISION MAKING

Traditional data
- Administrative areas
- Infra map
- Population
- etc

- MNOs processed the data
- MNOs to ensure the anonymisation of data

- MCMC only receives anonymized data (without any personal data)
- Reduce risk of sensitive data leakage

Addressing Concerns of MNOs: Navigating the Challenges MPD in Malaysia

Privacy and Confidentiality

Data Security
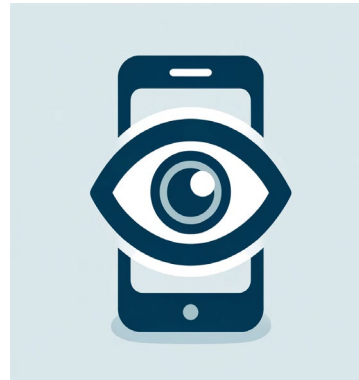
Competitive Advantage

Data Misuse

Compliance and Legal Issues

Cost and Resources

Data Quality and Accuracy

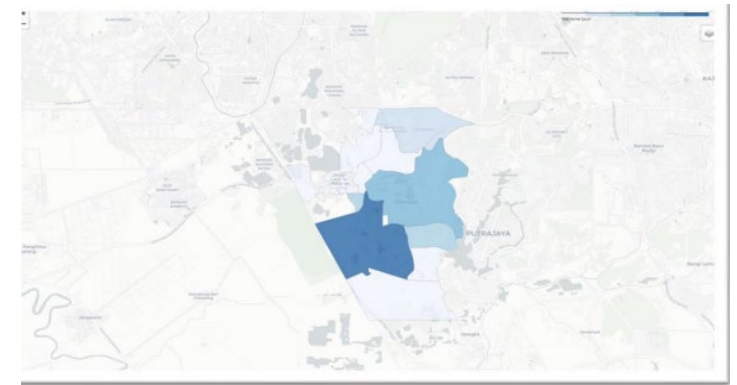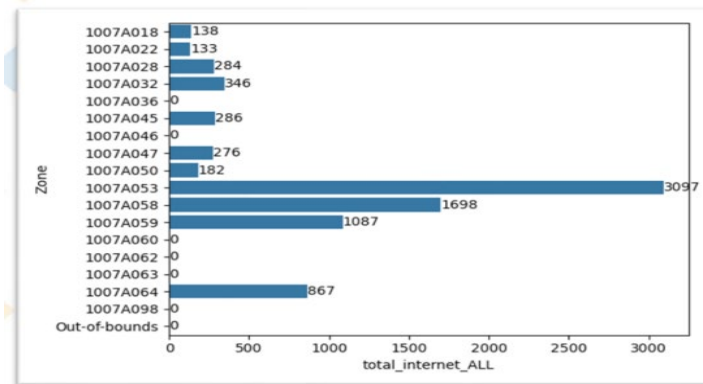Transparency and Accountability

Impact on Consumer Trust

Scope and Scale of Data Requests

Success MPD Data Processing using Python Code from ITU – ICT Indicators

Sanity Check	→	Raw Data Processing	→	Data Quality Assurance	→	Anchoring	→	Indicator Calculation
In accordance to required MPD format		*Filtering and cleaning*		*Ensuring consistency and accuracy*		*Selection of 'Home'*		*Indicator calculation and visualisation*

Indicator 1 : Mobile Broadband subscriptions by Zone

Indicator 2 : Mobile Broadband penetration rate per 100 inhabitants by zone
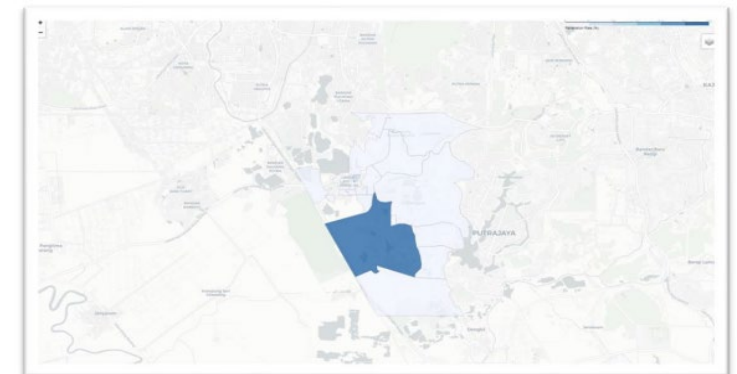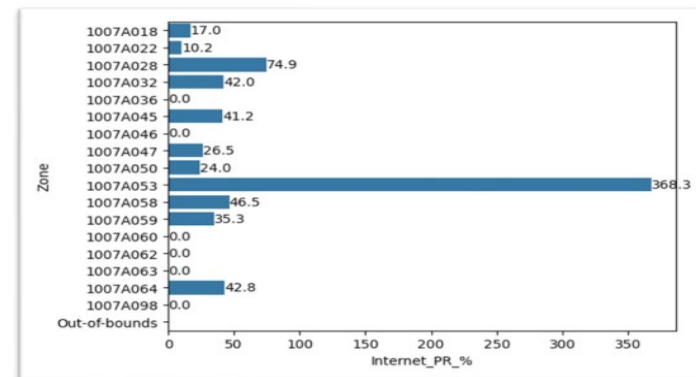
Malaysia 1st MPD Workshop: Capacity Building, Collaboration and Shared Understanding

Leveraging the Mobile Phone Data for Official Statistics
## 2-5 September 2024, Kuala Lumpur

➢ Organized by DOSM and MCMC
➢ >50 participants from Ministry of Communications, Ministry of Tourism, Arts & Culture, DOSM, MCMC and MNOs
➢ Speakers from ITU, BPS Indonesia, Telkomsel Indonesia, Positium and Microsoft
➢ Focus on end-to-end tourism and ICT statistics
➢ 5 sessions, > 15 slots and discussions
➢ Theories and hands-on

Development of National MPD Framework

- Aims to effectively integrate MPD into official statistics system

- This framework will be a reference for data collection, processing and analysis of MPD
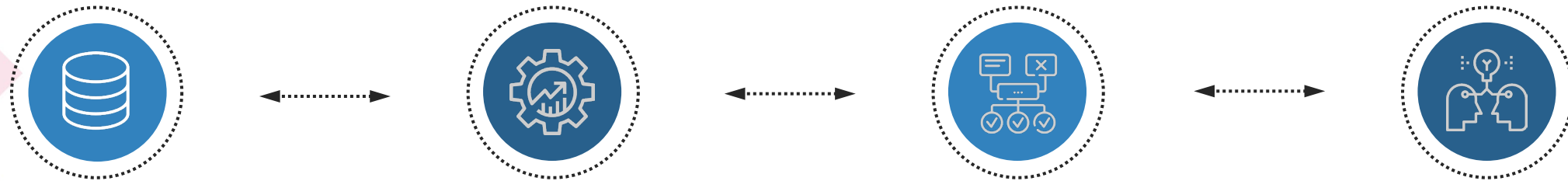
Data Requirements

1. Define data format
2. Data standardization
3. Metadata
4. Reference data

Business Model Assessment

1. Data access
2. Technical requirements for data processing
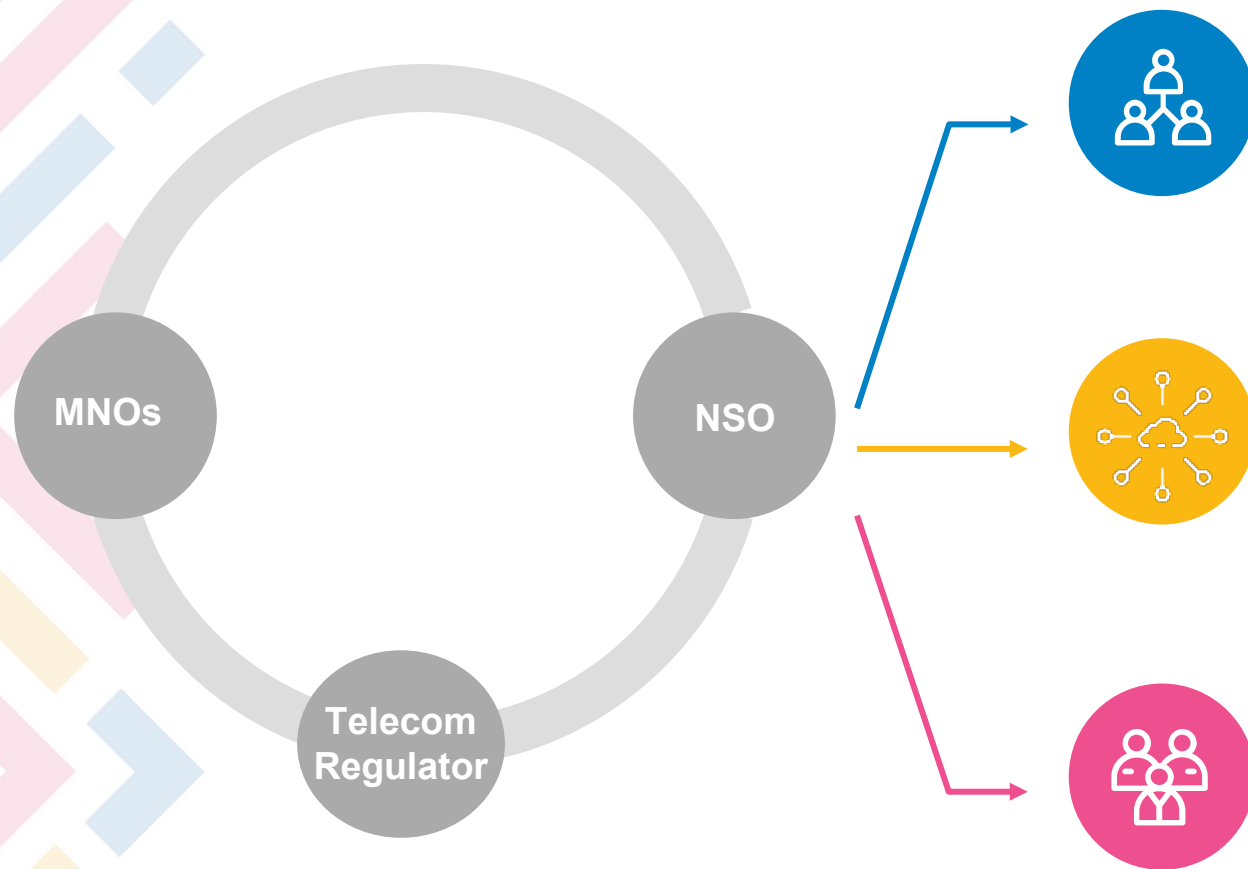3. Sustainability

Methodology

1. Data sanity check
2. Quality assurance
3. Data processing
4. Data sharing
5. Data visualization/reporting

Knowledge Transfer

1. Joint innovation and research opportunity
2. Feedback and continuous improvement

Sustainable Business Models for MPD Impact

MCMC

MNOs

NSO

Telecom Regulator

Implement sustainable business models for long-term growth and scale of MPD

- Collaboration between the demand and supply sides - establish common goals and deliver real value for all stakeholders in the ecosystem

Demonstrate shared value in choosing a business model

- No one-size-fits-all business model
- Consider stakeholders' long-term objectives and capabilities

Run pilots with a clear pathway to sustainability

- Reduce the incidence of one-off projects
- Enable all parties to scale learnings by sharing best practices
- Improve co-ordination and trust around the problem statement
- Increase the accuracy of insights
- Establish solutions that can be scaled and replicated in-country

Conclusion

1. **Government Mandate**: Essential for driving MPD implementation, emphasizing the importance of treating it as a national project.

2. **Regulator-MNOs Relationship**: Approach MNOs in a friendly manner as a regulator, addressing their concerns in a convincing way to foster cooperation. Treat them as partners.

3. **Collaboration with NSO**: Partnership with the NSO is crucial, regulator and NSO are on the same page

4. **Consult ITU**: Leverage ITU's expertise to guide project standards, frameworks, and best practices, enhancing the project's credibility and technical robustness.

5. **Infrastructure Readiness**: Ensure the end-to-end system infrastructure is robust and scalable to support effectively the demands of MPD implementation.

6. **Building Capacity**: Develop internal knowledge and technical capacity to manage and analyze MPD, ensuring sustainable and competent handling of data.

7. **Learning from Success Stories**: Establish good relationships with countries that have successfully implemented MPD to learn from their experiences and best practices.

8. **Phased Implementation**: Approach the MPD rollout in phases, evaluating the feasibility and success of each phase before advancing, to manage risks and enhance adaptability.

Thank you