

# ITU pilot project Big Data for Measuring the Information Society

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# Big Data for Measuring the Information Society



- UN agency for telecom/ICT
- Measuring the Information Society Reports – big data and IoT data
- WTIS – panel debates
- Discussion items in EGH and EGTI
- Member of UN Global Working Group (GWG) on Big Data for Official Statistics
- **New: Project on Big Data for Measuring the Information Society (Launched in June 2016)**
  - Colombia, Georgia, Kenya, Philippines, Sweden, United Arab Emirates



Measuring  
the Information  
Society Report  
2016

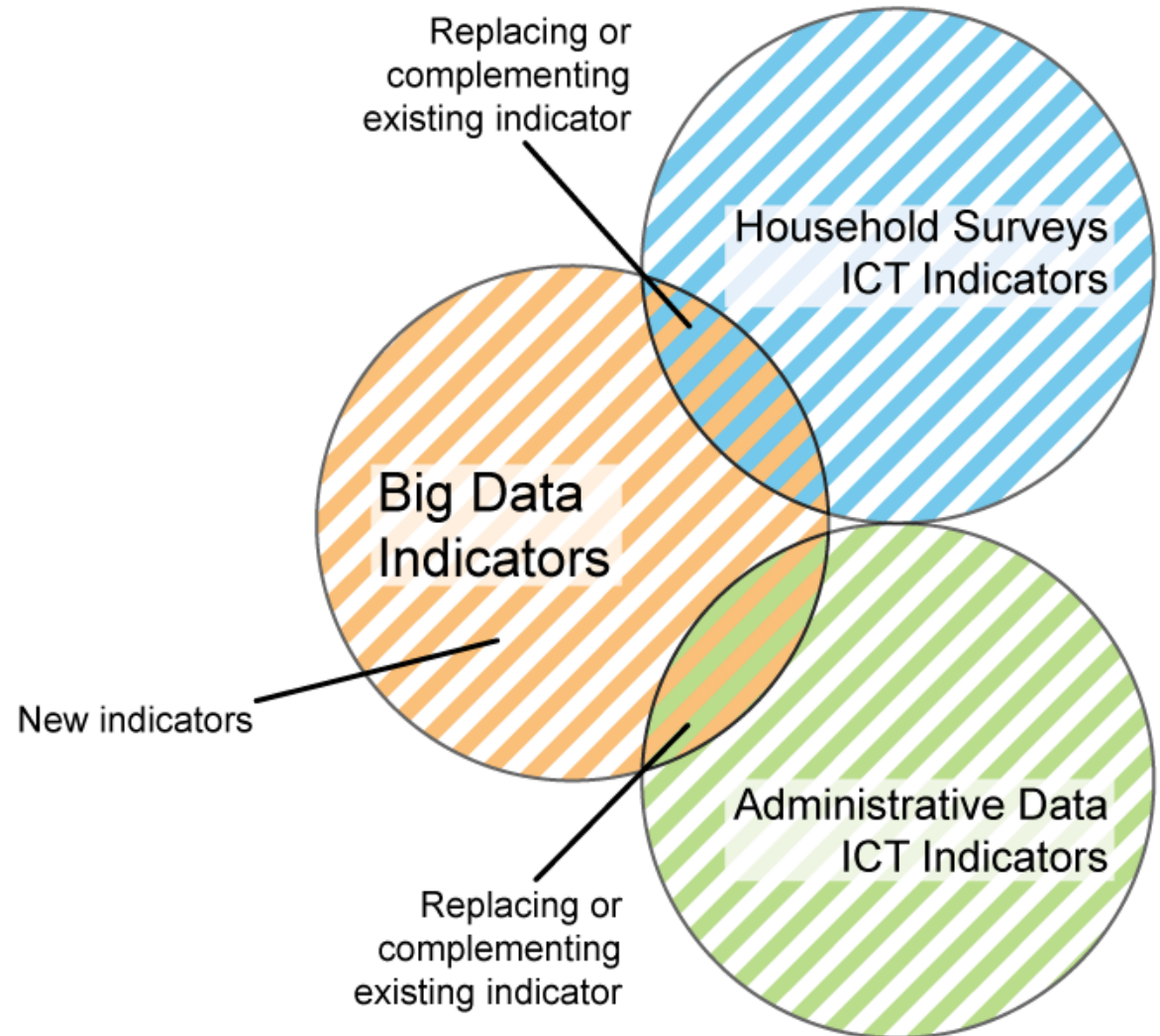


21-23 November 2016  
Gaborone, Botswana



# Objectives

- Complement existing indicators (granularity, disaggregation)
- New indicators





# Stakeholders

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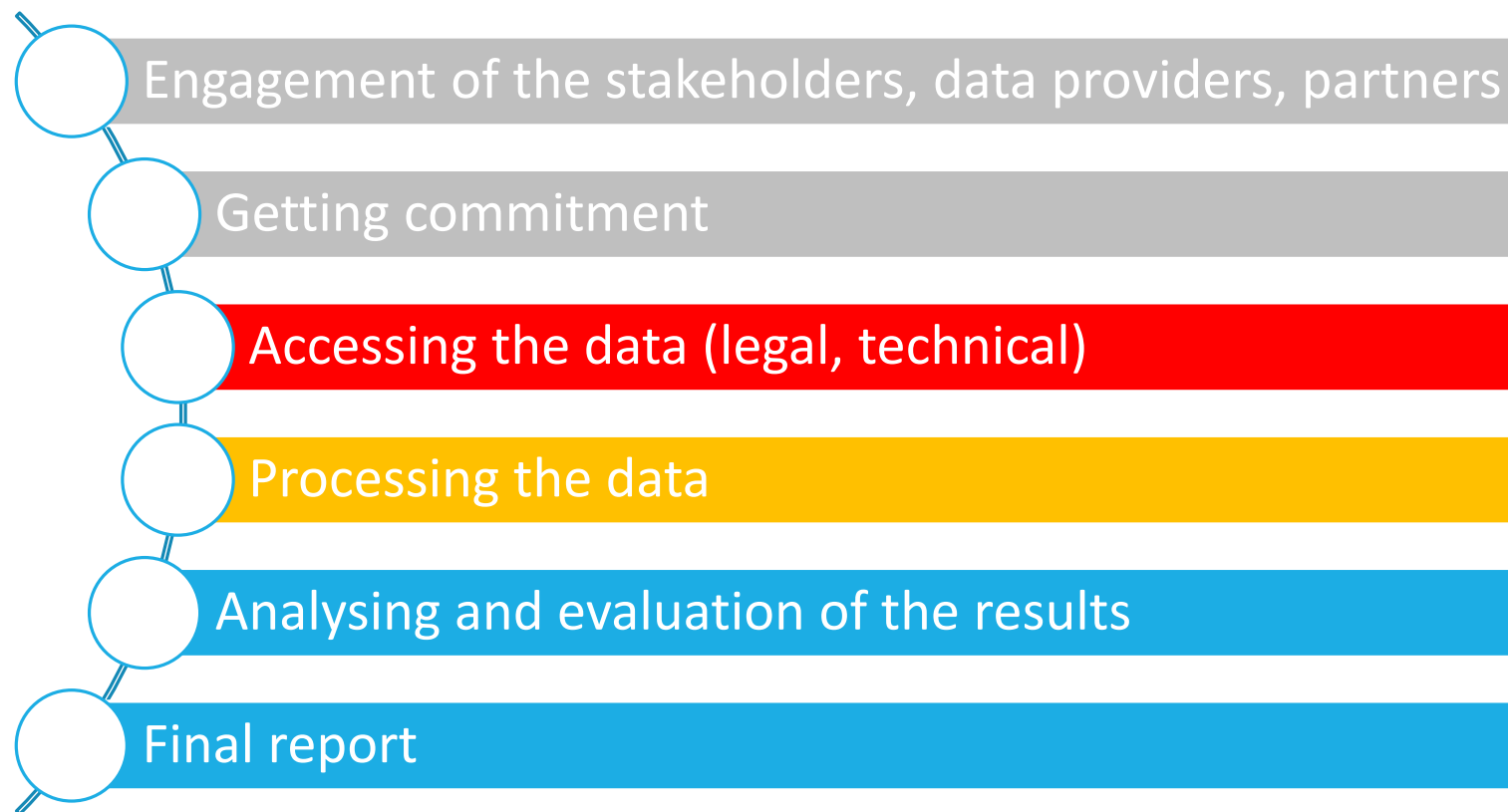
## PILOT COUNTRY

- Telecommunication Regulator / ICT ministry
  - National Statistics Office
  - Telecommunication Service Providers (MNOs, ISPs)
  - Data Protection Authority
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- Two data scientists and project coordinator to assist pilot countries



# June 2016 – November 2017

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# Big data indicators

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BD01: Percentage of the Land Area Covered by Mobile-Cellular Network, by Technology

BD02: Percentage of the Population Covered by a Mobile-Cellular Network, by Technology

BD03: Usage of Mobile-Cellular Networks for non-IP Related Activities, by Technology

BD04: Usage of Mobile-Cellular Networks for Internet Access, by Technology

BD05: Number of Subscriptions with Access to Technology

BD06: Active Mobile Voice and Broadband Subscriptions, by Contract Type

BD07: Average Number of Active Mobile Subscriptions per Day, by Contract Type

BD08: Active Mobile Devices

BD09: IMEI Conversion Rate

BD10: Fixed Domestic Broadband Traffic, by Speed, Contract Type

BD11: Mobile Domestic Broadband Traffic, by Contract Type, Technology

BD12: Mobile International Broadband Traffic, by Contract Type

BD13: Inbound Roaming Subscriptions per Foreign Tourist

BD14: Fixed Broadband Subscriptions, by Technology

BD15: Fixed Broadband Subscriptions, by Speed

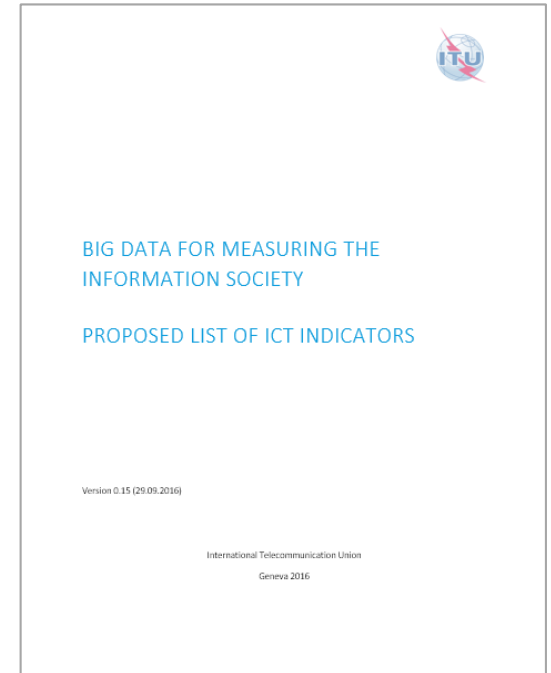
BD16+: Proposed New Indicators from Pilot Countries



# Methodology document

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- ✓ Includes:
  - Name of the indicators
  - Data source description
  - Processing methodology
  - Expected results example
  - Disaggregation
  - The purpose and value of the indicator
- Complemented and amended during the project



	Colombia	Georgia	Kenya	Philippines	Sweden	UAE
BD01	-	-	+	-	-	-
BD02	-	+	+	-	-	-
BD03	+	+	+	+	-	+
BD04	+	+	-	+	-	+
BD05	+	+	+	+	-	+
BD06	+	+	-	+	-	+
BD07	+	+	+	+	-	-
BD08	-	+	+	+	-	+
BD09	-	+	+	+	-	+
BD10	-	-	-	-	-	-
BD11	+	+	+	+	-	+
BD12	-	+	-	-	-	+
BD13	+	+	+	+	-	-
BD14	-	+	-	-	-	+
BD15	-	+	-	-	-	+
BD16	++++	+	-	-	-	+
<b>TOTAL</b>	<b>11</b>	<b>14</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>11</b>





# Key issues faced

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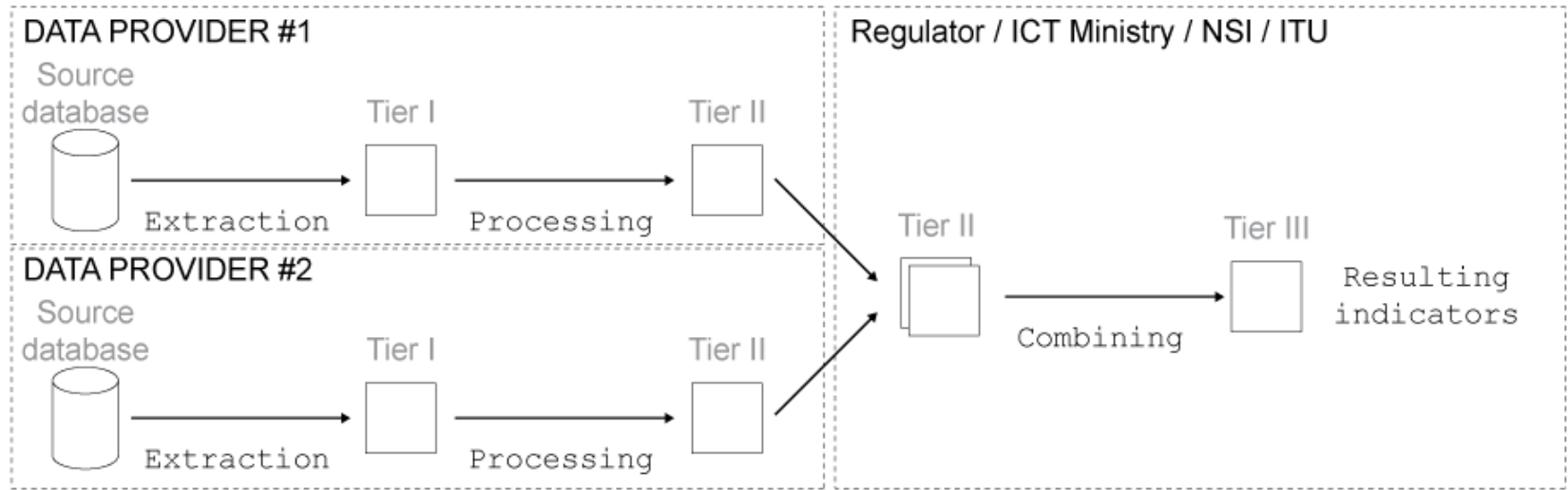
1. Access to data - administrative and legal procedures
2. Participation of all data providers (MNOs, ISPs)
3. Resources
  - Human (data scientists)
  - Infrastructure

# Data processing model - option 1



Indicators calculated by data providers, then aggregated to resulting indicators:

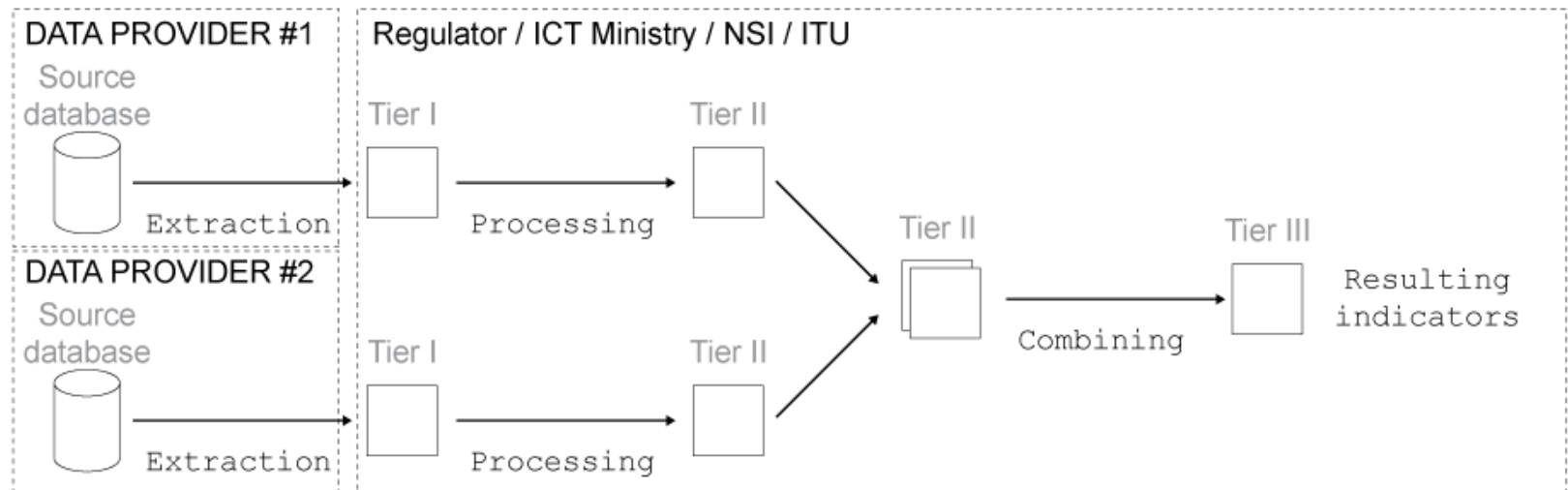
- Kenya
- Philippines
- UAE



# Data processing model - option 2

Raw data extracted by data providers, indicators calculated by TRA/NSO/ITU:

- Georgia
- Colombia
- Sweden





# Deliverables

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- ✓ Presentation of the results in WTIS-17 – November 2017
- ✓ Methodology document – December 2017
- ✓ Country reports – December 2017
- ✓ Final project report – summarizing the experiences gained from the pilot countries and results – December 2017

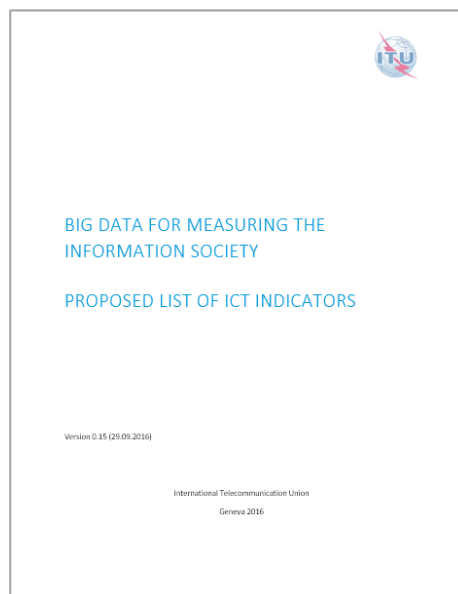
**Will be available online**

<http://www.itu.int/en/ITU-D/Statistics/Pages/bigdata/default.aspx>

# Lessons Learned (for Phase II)



1. Prepare all administrative and legal procedures to access the data before the project starts
  - Agreed processing model for calculation (by data providers or by TRA/NSO)
  - Agreed method for data transfer
2. Standard, clear and unambiguous methodology:
  - detailed data source description (input data)
  - calculation methodology
  - example algorithms for calculation
3. Infrastructure and human resources (data scientist) for data processing should be in place
4. Coordination with all stakeholders (access to data, validation of results, analyses)



**Thank you!**