ITUEGTI/EGH

ITU Expert Group on Telecommunication/ICT Indicators &
ITU Expert Group on Household ICT Indicators

Day 1

Virtual joint EGTI/EGH meeting on the ICT Development Index (IDI)

13-15 June 2023 | 13:00-16:00 (CET)

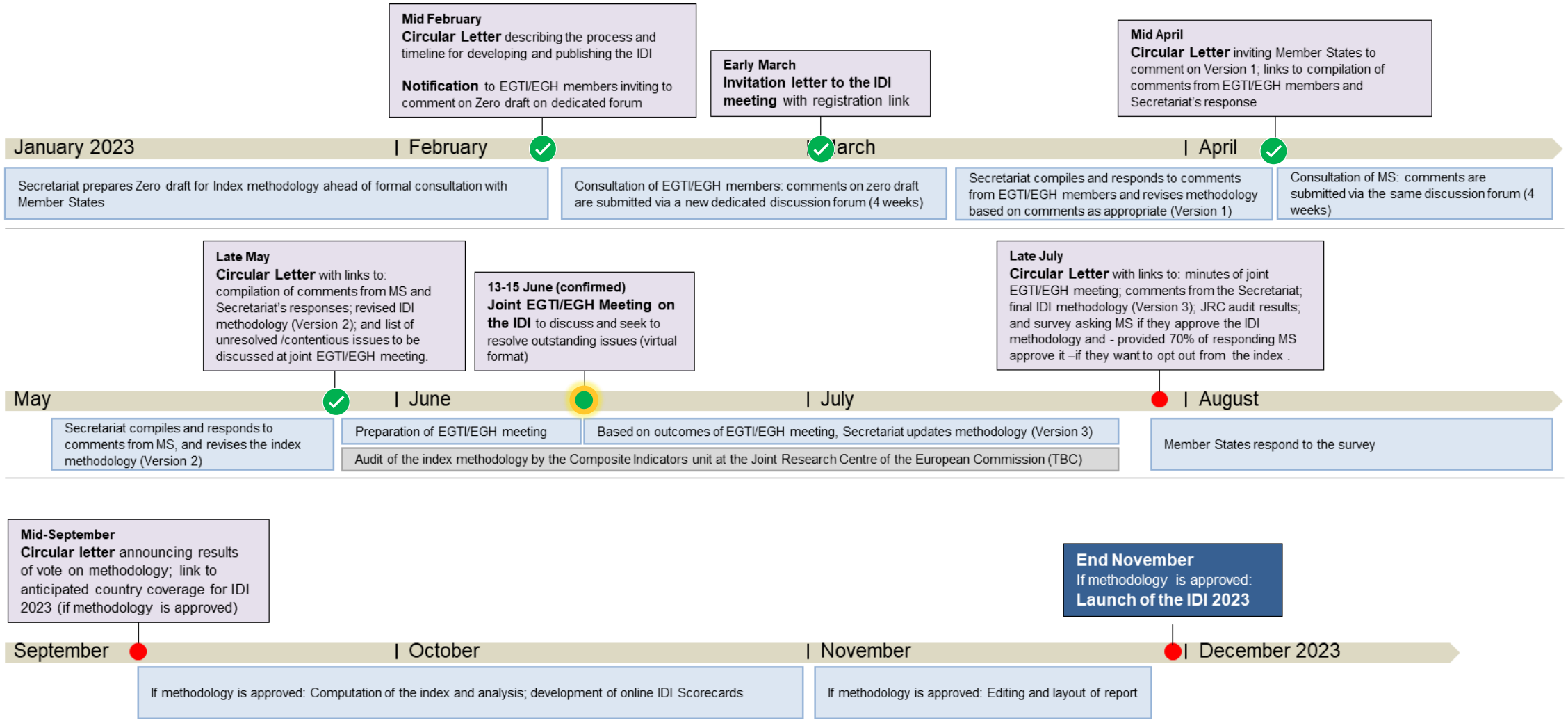
A brief history of the IDI

- The ICT Development Index was published from 2009 to 2017.
- In 2017, an EGTI/EGH meeting adopted a revised set of 14 indicators for the IDI.
- A methodologically sound index could not be computed using based on this revised set due to challenges in data availability, harmonization, and methodology.
- Between 2018 and 2020 efforts to publish the IDI or to develop an entirely new index were unsuccessful.
- In 2021, Council decided that further discussion and any decision regarding the future of the IDI should be deferred to the next Plenipotentiary Conference 2022, where Resolution 131 was revised.
- More information: https://www.itu.int/en/ITU-D/Statistics/Pages/IDI/

Main implications of ITU Resolution 131 for the development and publication of the IDI

- ITU must publish a new IDI “urgently” (instructs to BDT Director 1)
- ITU should establish a valid structure and methodology for the IDI, working through EGTI/EGH, and through formal consultations (resolves 3)
- The BDT Director should facilitate the work of EGTI/EGH (instructs to BDT Director 8)
- A meeting of EGTI/EGH will be convened following a formal consultation of Member States with a view to resolving any contentious issues and seeking consensus (instructs to BDT Director 9)
- Methodology will be submitted to Member States for approval and adopted if 70 percent of respondents approve it (resolves 3)
- The new IDI is to be published without ranking (resolves 3)
- If adopted, the methodology will be valid for four editions (resolves 4);
- In each edition, MS will have the possibility to decline to participate (resolves 5)
- Integrity of all ITU's statistical work must be preserved, in strict adherence to UN principles on good statistics (instructs to BDT Director 12)

Timeline and process



Agenda

13 June 2023 - Day 1	
13:00	Introduction
13:20	Conceptual framework
13:40	Universal connectivity indicators
15:30	Meaningful connectivity indicators
16:00	End of Day 1
14 June 2023 - Day 2	
13:00	Meaningful connectivity indicators (continued)
15:30	Statistical assessment of the proposed indicators
16:00	End of Day 2
15 June 2023 - Day 3	
13:00	Normalization, aggregation, and weighting
14:30	Any other feedback on the document
15:30	Conclusion and next steps
16:00	End of Day 3

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Topic: Conceptual Framework

13 June 2023 | 13:25-13:45 (CET)

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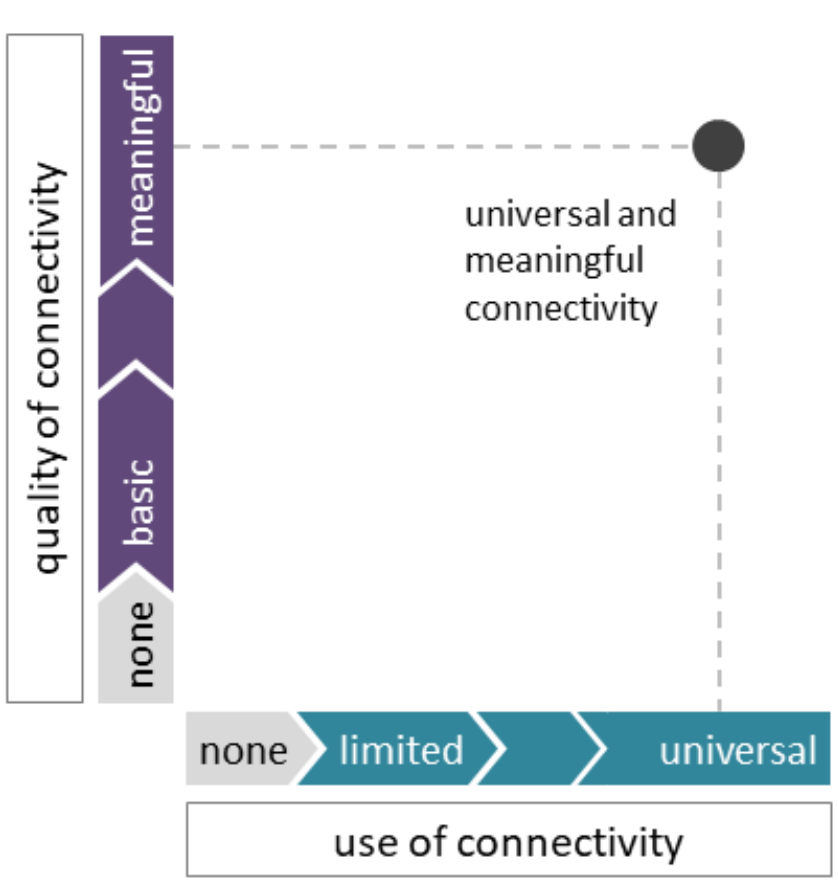
Steps to develop an index

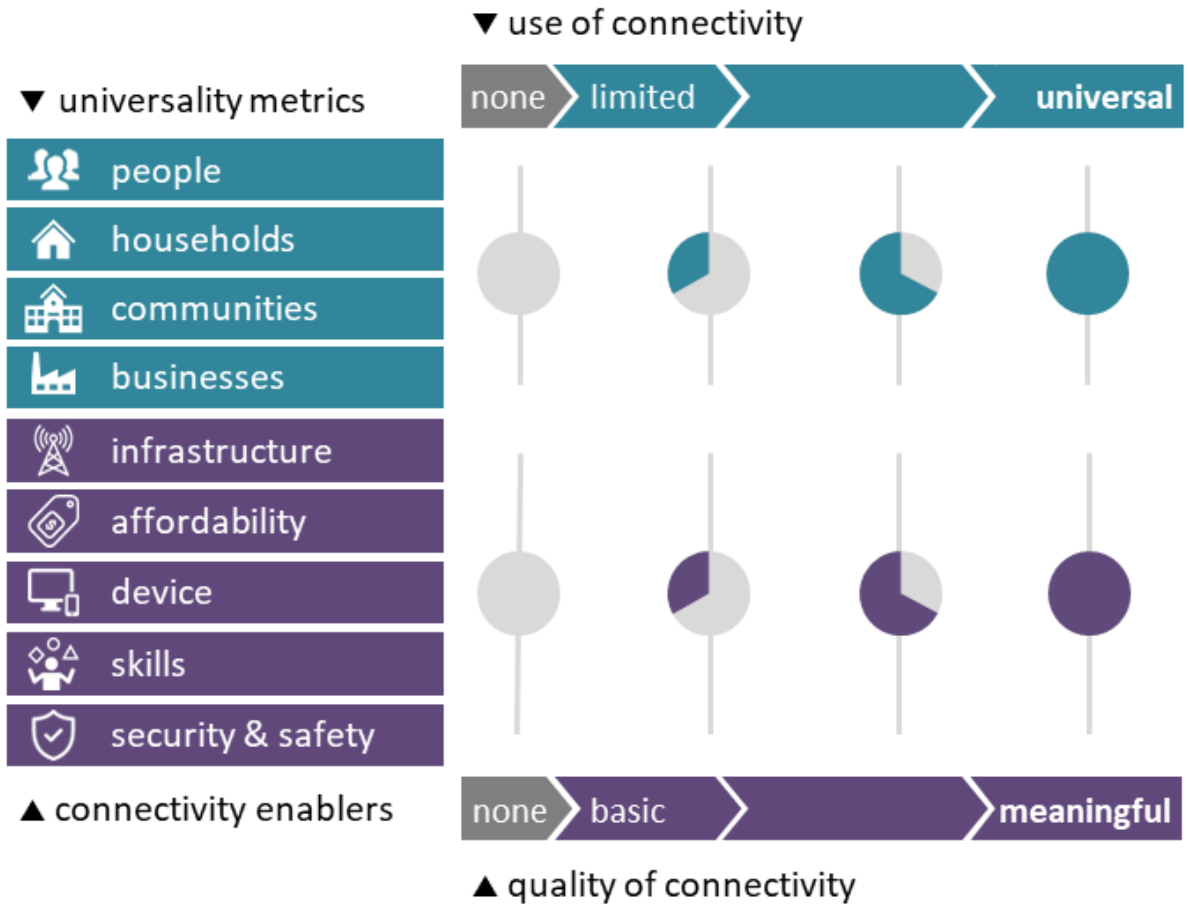
	Step
1	Develop the conceptual framework based on the stated objective
2	Identify potential indicators that capture those concepts
3	For each considered indicator, assess coverage, methodological soundness, quality of data
Based on this assessment, revisit the framework, concepts, and/or indicators (steps 1-3) if necessary	
4	Identify and treat any outliers and missing data
5	Define the suitable normalization, weighting, and aggregation methods
6	Calculate the index
7	Assess the statistical and conceptual coherence of the index
8	Conduct sensitivity analyses and assess the impact of uncertainties on resulting scores
Based on the results of the sensitivity analysis, revisit steps 1-8 if necessary	
9	Make sense of the data and validate the results
10	Communicate the results and underlying information

Conceptual framework: Universal and Meaningful Connectivity

- UMC concept formalised in 2021, in the context of the implementation of the UN Secretary-General's Roadmap for Digital Cooperation.
- ITU and the Office of the UN Secretary-General's Envoy on Technology developed a baseline and aspirational targets for UMC.
- At the World Telecommunication Development Conference (WTDC) 2022 and ITU's Plenipotentiary Conference (PP) 2022, universal and meaningful connectivity was front and centre.
  - UMC mentioned in Resolution 2 (Study Groups), Resolution 87 (Connecting every school to the Internet), Resolution 88 (Partner2Connect), Regional initiatives (Europe, Arab States).
  - UMC is also captured in the first Strategic Goal ("Universal Connectivity: Enable and foster universal access to affordable, high-quality and secure telecommunications/ICTs") of the Strategic Plan 2024-2027, adopted at PP 2022.

Conceptual framework: Universal and Meaningful Connectivity





Discussion on conceptual framework

- Using Universal and meaningful connectivity as the conceptual framework received broad support by EGTI/EGH members and by Administrations
- Any comments on the topic?

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Topic: Universal connectivity indicators

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Indicator selection

	Criterion	Rationale
1	Relevance to the concept	Measure an aspect of UMC
2	Clarity/interpretability	Easy to interpret and the impact on UMC clear
3	Source	Rely primarily on official data provided by Member States, based on internationally recognized and transparent methodologies
4	Reliability	Coherently collected and according to the harmonized methodology
5	Applicability to measure country performance	Sufficiently high variation and have the capacity to signal progress over time
6	Availability and timeliness	Recent data available to minimise estimates: at least 50% of economies for 2020-2021 in principle

Universal connectivity indicators

Universal connectivity pillar
Proportion of individuals who used the Internet (from any location) in the last 3 months (yHH7)
Proportion of households with Internet access at home (xHH6)
Active mobile-broadband subscriptions per 100 inhabitants (i911mw)
Fixed broadband penetration*

Issue for discussion: Fixed-broadband penetration rate

- *Initial proposal*: Fixed broadband subscriptions per 100 population
- *Summary of comments*: Conceptually, the number of households is considered to be a better denominator than population. However, up-to-data official data for the number of households is very limited.
- *Various options considered:* see previous slide

Fixed broadband penetration: options considered

Indicator		Pros	Cons
1. Fixed broadband subscriptions per 100 inhabitants	Conceptual	*Numerator:* a relevant measure of ICT development; *Denominator:* focus on population useful to identify trends;	Interpretation (ratio, not penetration rate); HHs are main drivers of FBB subscriptions; residential preferred but Micro/S businesses are mostly included at varying rates per country
	Feasibility	*Numerator & denominator:* near universal availability for time series, timely	-
2. Fixed broadband subscriptions per 100 inhabitants aged 18+	Conceptual	Focus on 18+ lessens disparities in HH size that create comparability issues when using the full pop.	Interpretation not intuitive: does not account for all reasons for differences in HH size
	Feasibility	*Numerator & denominator:* near universal availability for time series, timely	-
3. Households with fixed broadband access (from HH survey)	Conceptual	From ICT HH survey: Best measure of penetration	Respondents may not understand questions; data usually less timely than admin data
	Feasibility	-	Data unavailable for most countries (21% coverage)
4. Fixed broadband subscriptions per 100 households (from avg. HH size)	Conceptual	Households are key drivers of FBB subscriptions	-
	Feasibility	-	Avg HH size based: harmonized data not available (5% coverage) and outdated; Cannot be estimated by ITU
5. Drop indicator	Conceptual	-	Fixed BB is a relevant indicator of ICT development

Relevance of adult population for fixed broadband subscriptions

- Variation in household size is due to differences in number of children in households in large part
- Children in nearly all cases are members of households that include adults
  - **Coverage or lack of coverage by fixed broadband subscriptions for children is almost fully defined by that for adults**
- *Data on adult population (aged 18+) are available for all countries (UN Population Division)*

Lower variation in household size for adult population

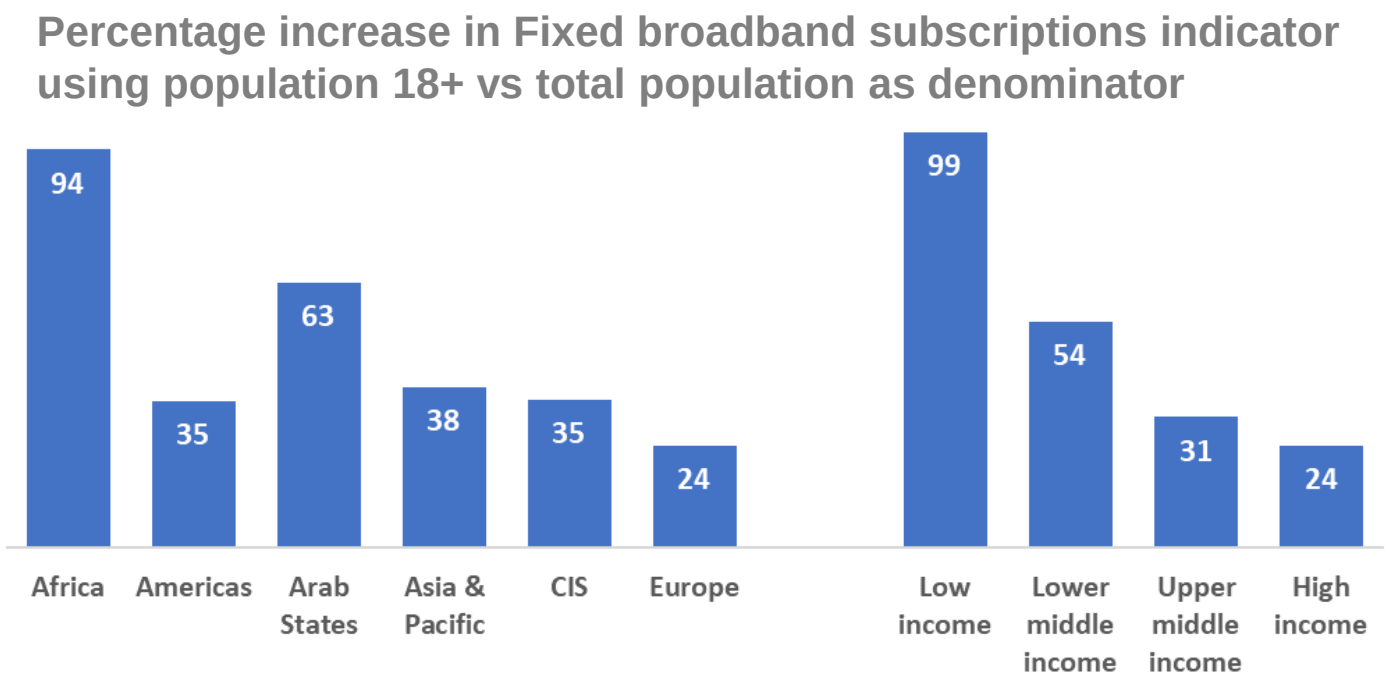
	n	HH size	HH size 18+ (derived)
Africa	222	5.2	2.6
Americas	101	3.7	2.4
Arab States	46	5.5	3.0
Asia & Pacific	117	4.4	2.8
CIS	33	4.2	2.8
Europe	106	2.8	2.2
Highest/lowest region	**-**	**1.96**	**1.37**
Low income	129	5.4	2.6
Lower middle income	228	4.9	2.7
Upper middle income	154	3.9	2.6
High income	114	2.8	2.1
Low income/high income	**-**	**1.97**	**1.22**

- **Comparing household size based on UN Population Division Database on Household Size and Composition**
  - 625 data points from 2000-2021
  - Household size 18+ derived
- **Much lower variation in household size between regions/income groups**
  - Using adult-only population minimizes comparability issues

Changes from using full population (2021)

Smaller denominator → Increase in value

- Different levels of increase for different regions/groups
- Gaps between low income and high income countries decreases notably



	FBB sub / pop	FBB sub / pop 18+
Overall	**17.0**	**24.3**
Africa	0.7	1.3
The Americas	24.6	33.1
Arab States	9.7	15.9
Asia & Pacific	17.0	23.5
CIS countries	20.8	28.2
Europe countries	34.6	43.0
Low income	0.5	0.9
Lower middle income	4.1	6.4
Upper middle income	29.0	38.0
High income	36.9	45.9

Adult population as fixed broadband subscriptions denominator

- **Advantages**
  - Focusing on those aged 18+ implicitly lessens disparities in household size that create comparability issues when using the entire population;
  - Denominator is universally available for time series (no time lag)

- **Weakness**
  - Interpretation not necessarily intuitive: does not account for all reasons for differences in household size – most notably the differing prevalence of multi-generational households and single person households

Universal connectivity indicators

- Other comments on universal connectivity indicators?

Universal connectivity pillar
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Topic: Meaningful connectivity indicators

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Meaningful connectivity indicators: Infrastructure

Indicator	
Percentage of population covered by a mobile network	At least 3G & at least LTE/WiMAX
Mobile broadband Internet traffic per mobile broadband subscription	For discussion
Fixed-broadband Internet traffic per fixed broadband subscription	For discussion

Issue for discussion: traffic indicators

Issue: Choice of denominator

- *Initial proposal*: Mobile broadband Internet traffic per mobile broadband subscription and Fixed broadband Internet traffic per fixed broadband subscription.
- *Summary of comments and issues*: Is the number of subscriptions the right denominator to use?
- *Options:*
    1. Divide by subscriptions
    2. Divide by Internet users

End of day 1

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