ICT Development Index 2020
A proposal

14 September 2020

Looking for a solution 1/2

The Secretariat considered the following developments since 2017:

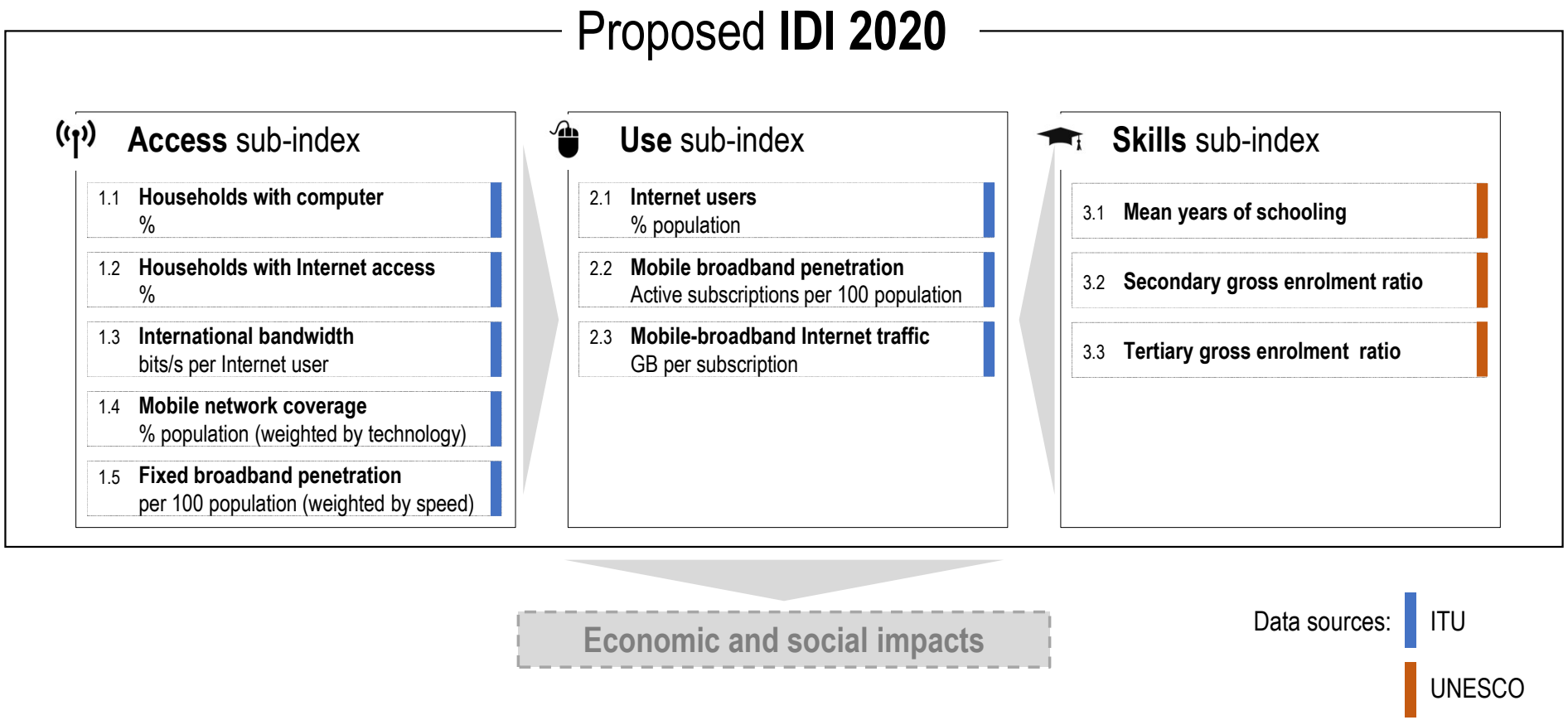
1. In 2017, EGTI/EGH Extraordinary Meeting adopted a revised set of 14 indicators
2. This revised set of 14 indicators did not allow for a robust and methodologically sound index to be produced.
3. Member States want an index to be released as soon as possible
4. Based on consultations in Spring 2020, developing an entirely new framework will be a long-term, complex endeavor
5. Virtual consultation of councillors in June 2020 encouraged Secretariat and Expert Group to find a solution to release an index until next physical meeting

Looking for a solution 2/2

- ITU Secretariat addressed the issues that prevented the computation of the revised IDI → background document "ICT Development Index 2020: A proposal"

- If agreement on the proposed IDI 2020 is reached today session, ITU Secretariat will be in the position to release it in 2020

Structure of the ICT Development Index 2020



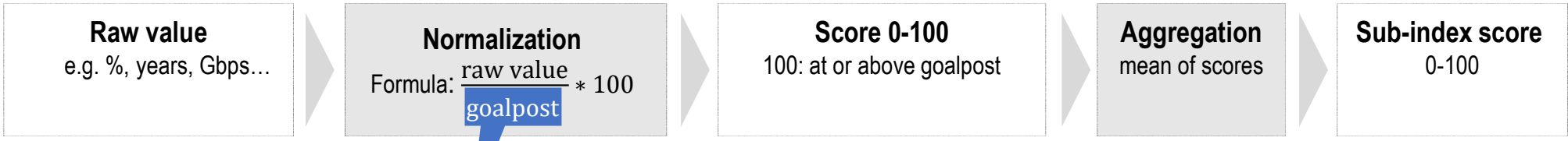
Revised IDI and IDI 2020: What is unchanged

	Revised IDI	IDI 2020 (proposal)	Changes between revised IDI and IDI 2020
Access sub-index	• Households with computer • Households with Internet access • International bandwidth • Mobile network coverage	same	none
Use sub-index	• Internet users • Mobile broadband penetration • Mobile broadband Internet traffic	same	none
Skills sub-index	• Mean years of schooling • Secondary gross enrolment ratio • Tertiary gross enrolment ratio	same	None

From Revised IDI to IDI 2020: 4 changes

	Revised IDI	IDI 2020 (proposal)	Changes between revised IDI and IDI 2020
Access sub-index	• Fixed-broadband subscriptions by speed, as % of total fixed-broadband subscriptions	Fixed-broadband subscriptions (weighted by speed) per 100 population	Methodological change: Indicator now normalized by population
Use sub-index	• Fixed broadband Internet traffic per fixed broadband subscription		Indicator dropped due to quality issues.
	• Percentage of individuals who own a mobile phone		Indicator dropped due to insufficient data availability (36 percent)
Skills sub-index	• Proportion of individuals with ICT skills		Indicator dropped due to insufficient data availability (20 percent)

Methodology 1/2



1.1	**Households with computer** %	**100**
1.2	**Households with Internet access** %	**100**
1.3	**International bandwidth** bits/s per Internet user	**log | 2sd ***
1.4	**Mobile network coverage** % population (weighted by technology)	**100**
1.5	**Fixed broadband penetration** per 100 population (weighted by speed)	**40 ****

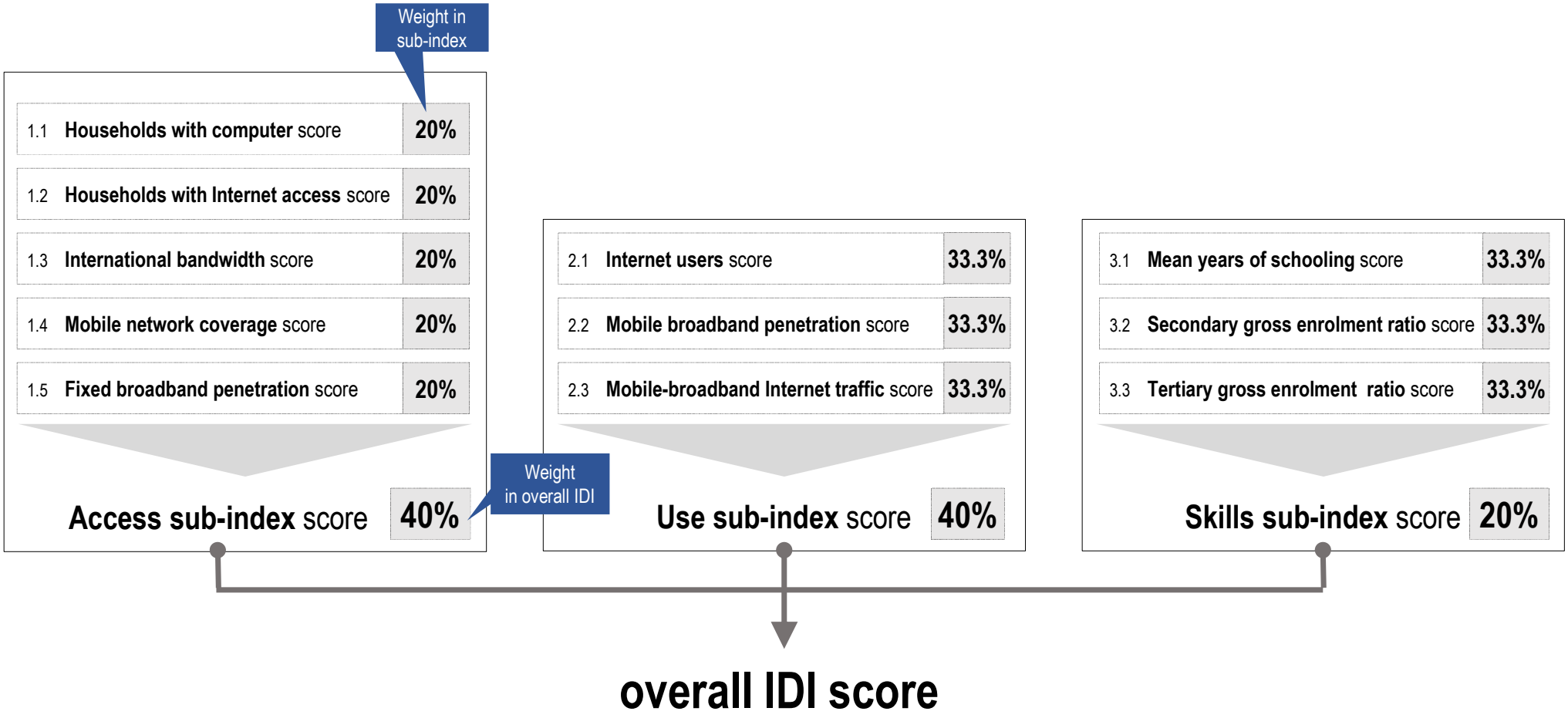
2.1	**Internet users** % population	**100**
2.2	**Mobile broadband penetration** Active subscriptions per 100 population	**120**
2.3	**Mobile-broadband Internet traffic** GB per subscription	**log | 2sd ***

3.1	**Mean years of schooling**	**15**
3.2	**Secondary gross enrolment ratio**	**100**
3.3	**Tertiary gross enrolment ratio**	**100**

* Value log-transformed prior to normalization | Goalpost: mean + 2 standard deviations

** 95th percentile of distribution (rounded)

Methodology 2/2



Issue #1: Data availability

- Issue: only 42% of data available for 14 indicators of revised IDI
- Solution: (preliminary figures based on data situation as of Aug '20)
  1. Consider a 3-year period of reference, rather than only latest year
     → Data availability increases to 62%
  2. Exclude indicators with less than 50% data availability
     → 2 indicators dropped: *Mobile phone ownership* (36%) and *ICT skills* (20%)
  3. Include only economies with at least 50% data availability (4 or more indicators available)

→ preliminary total of 135 economies

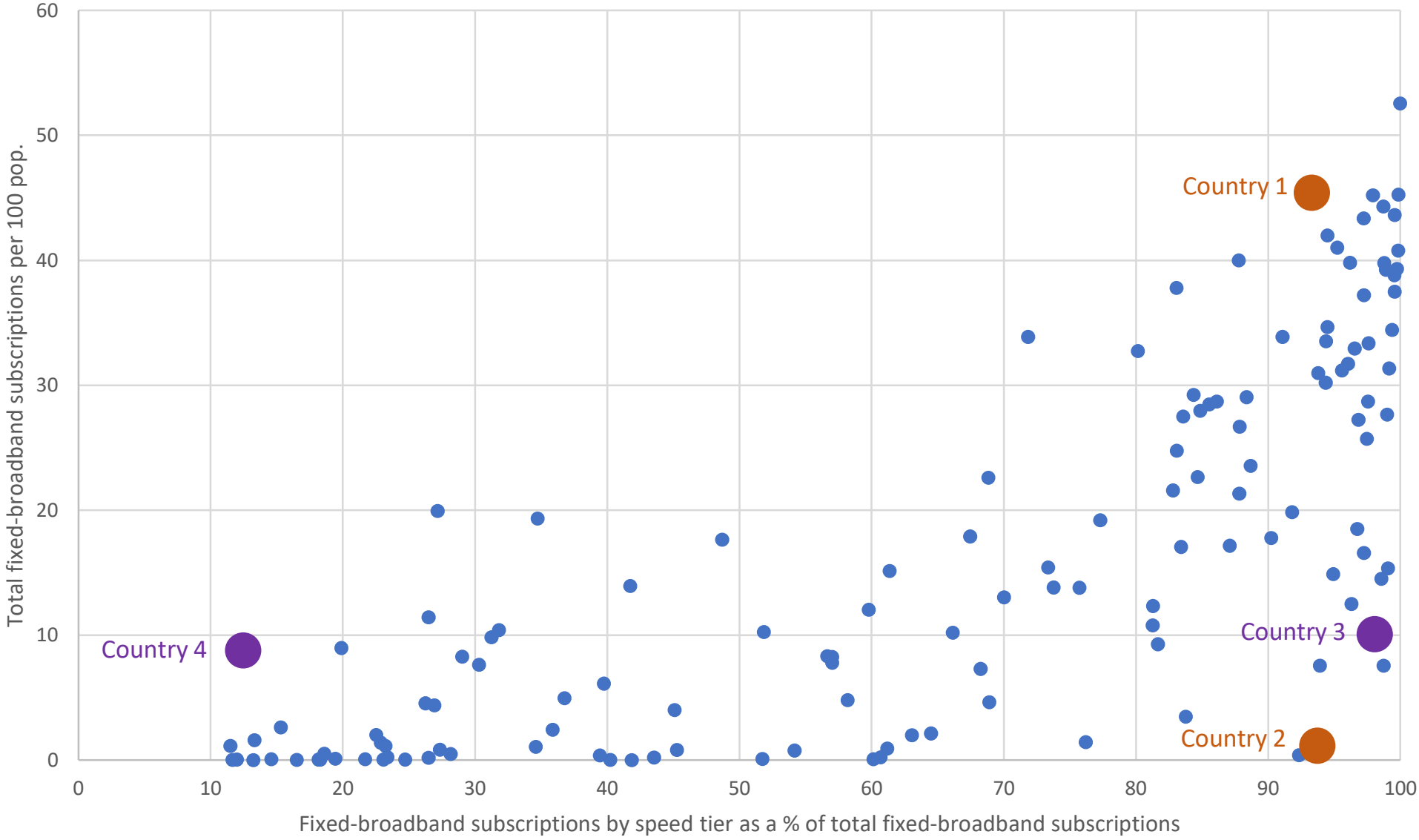
→ 87% of data available and only 13% of data points to estimate

Improving data availability and quality

- Statistical capacity building activities, in-country support
- EGTI and EGH to develop statistical standards and collection methods
- Last July, ITU released the 2020 edition of the Handbook for the Collection of Administrative Data on Telecommunications/ICT and Manual for Measuring ICT Access and Use by Households and Individuals.
- Two online courses based on these publications to be launched in December 2020
- Big Data for Measuring the Information Society

Issue #2: Fixed-broadband subscriptions

- Issue: in the revised IDI, “Fixed-broadband subscriptions by speed tier as a % of total fixed-broadband subscriptions” only captures quality -- not diffusion of fixed-broadband
- Only considers the respective share of slow-speed (<2Mbps), medium-speed (2-10Mbps), and fast-speed (>10Mbps) subscriptions, regardless of the number of subscriptions → produces counter-intuitive results



N = 137. Sources: ITU Secretariat calculations; ITU

Fixed-broadband subscriptions

- Modified indicator:

$$\frac{0.1 * \text{slow subs} + 0.35 * \text{medium subs} + \text{fast subs}}{\text{population}} * 100$$

	Similar penetration rate			Similar speed-tier shares		
	Country 5		Country 6	Country 7		Country 8
Fixed-broadband subscriptions per 100 pop.	**33.9**	≈	**34.4**	**12.5**	<	**37.2**
Share of slow-speed subscriptions	3%		0%	0%		0%
Share of medium-speed subscriptions	39%		1%	5%		4%
Share of fast-speed subscriptions	**58%**	<	**99%**	**94%**	≈	**96%**
Fixed-broadband subs (weighted by speed) per 100 pop.	**24.3**	<	**34.2**	**30.1**	<	**90.5**

Why keeping fixed broadband indicator

- The objective of the access sub-index is to measure the availability of ICT in the country (that can be used by the population)
- Fixed broadband is important for high-speed/bandwidth intensive applications
- Fixed broadband is used by governments (health, etc), business, and most households to distribute Wi-Fi signals
- Some of the mobile broadband traffic is offloaded to the fixed network to avoid congestion

Fixed broadband subscriptions: Using household as denominator

- Redundancy with “households with Internet” indicator (if divided by household)
- Fixed broadband indicator includes total subscriptions (business, households, government agencies) – can be more than the total number of households
- No comparable/harmonized household data available at the international level

Issue #3: Fixed-broadband Internet traffic

- Problem: insufficient data quality.
  - Relatively new indicator, for which a refined methodology has only been finalised at the end of 2019
  - Relatively low data availability (58%)
  - Comparability across countries is problematic
  - 15% of countries saw lower traffic in 2019 than in 2018
- Solution: Indicator is excluded (despite concept relevance)

Proposed timeline in case of agreement on IDI 2020

- Should this meeting support the proposed solution, the Secretariat can commit to releasing an IDI by December 2020:

  - 15-30 September: Preparatory work by Secretariat
  - 30 September: The Secretariat will consider official data already submitted and additional data submitted via the Long Questionnaires through 30 September.
  - October: Calculation, estimation (estimates will be shared with Member States for information), data verification
  - November: Analysis and drafting
  - December 2020: Production and launch

Thank You!