

Annex 1 – Parameter Table

CATEGORY	DESCRIPTION	EXAMPLE/DETAILS
INFORMATION TO BE COLLECTED		
Type (Level i)	Nodes, lines, services	<ul style="list-style-type: none"> • Nodes: Central Office, • Data CenterLines: Fiber Optic Cable, Copper • CableServices: Internet, VoIP
Attributes (Level ii)	Master description, additional info about infrastructure existence or broadband service availability	<ul style="list-style-type: none"> • Node: Operational Status, • CapacityLine: Length, • Installation DateService: Bandwidth, Latency
Values/Terms (Level iii)	Defined values or terms for second-level attributes	<ul style="list-style-type: none"> • Node Status: Active, • InactiveLine Material: Fiber, CopperService Type: Internet, VoIP
Address Database	Reliable address database including geographical coordinates for each address	<ul style="list-style-type: none"> • Sourced from official administrative databases like cadastre or civil infrastructure systems
Criteria		
Criteria	Importance	Implementation Example
Geographical Precision	High	Using GIS data from cadastral systems <ul style="list-style-type: none"> • Address: 123 Main St, Springfield, • Longitude: 40.7128, • Latitude: -74.0060
Data Consistency	High	Standardized format for address dataFormat: <ul style="list-style-type: none"> • CSV, • XML
Update Frequency	High	Regular updates from municipal records, yearly updates, or as per European Commission and BEREC guidelinesUpdate Interval: Annually, Quarterly
Policy and Regulatory Framework		
Policy and Regulatory Framework	Details	Example
Objectives	Define specific goals like identifying coverage gaps	EU Digital Agenda Objective: Identify underserved areas for broadband expansion

Roles and Responsibilities	Clear delineation among government agencies, operators, etc.	Romanian Electronic Communications Law Roles: Government sets policy, ISPs provide data
Legal Mandates	Legislative support for data sharing and compliance	European Electronic Communications Code Mandate: ISPs must share network data with regulatory body
Collaboration and Partnerships		
Government Agencies Regulatory Bodies Regulatory Bodies	Policy-making, funding, and oversight Data collection standards, compliance enforcement	EU Digital Agenda Agency: Ministry of Digital Transformation ANACOM in Portugal Body: National Regulatory Authority (NRA)
Telecommunication Operators	Data provision, infrastructure deployment	Public-private partnerships in Italy Operator: Telecom Italia
Community Organizations	Crowdsourced data collection, public awareness	Local initiatives in Georgia Organization: Georgia Broadband Alliance
Data Collection and Standardization		
	Details	Example
Speed	Measurement of download and upload speeds	FCC Form 477 Data Download Speed: 100 Mbps, Upload Speed: 20 Mbps
Technology Type	Types of broadband technology (e.g., fiber, DSL, cable)	ITU Standards Technology: Fiber Optic, DSL, Cable
Coverage	Geographic extent of broadband service	GIS-based mapping Coverage Area: 10 km radius
Data Source	Origin of data (e.g., ISP reports, surveys, crowdsourcing)	Polish Regulation on telecom infrastructure and service inventory Source: ISP self-reports, User surveys
Infrastructure Mapping Systems		
	Details	Example
Technical Parameters for Nodes		
Node Address	- Province - Commune - Unique identifier - Town name - Street name	Province: Lombardy Commune: Milan Identifier: 12345 Town: Milan Street: Via Roma

	- Building number	Building: 10
Coordinates	- Geographical coordinates: longitude and latitude in the WGS-84 coordinate system with an accuracy of 1 m	Longitude: 9.1900, Latitude: 45.4642
Building Type	- Office - Residential - Industrial - Service - Public - Sacred object - Power grid - Tower - Mast - Container - Pole - Cable well	Type: Office Type: Residential
Sharing Surface Area	Yes/No	Yes
Layers of Node	- Backbone - Distribution - Access	Layer: Backbone
Transmission Medium	- Fibre optic - Coax - Copper - Radio	Medium: Fibre Optic
Technology	- Ethernet - Fast Ethernet - Gigabit Ethernet - GPON - EPON - DWDM - CWDM - SDH - PDH - (EURO)DOCSIS - VDSL - ADSL - HDSL - POTS/ISDN - Radio link - WiFi - WiMAX	Technology: GPON Technology: VDSL
Maximum Bandwidth	- For download and upload	Download: 1 Gbps, Upload: 500 Mbps

Number of Interfaces		24
Source of Funding	- Commercial - State aid	Funding: Commercial
Power Supply	- Type of power supply - Backup power options	Power Supply: AC, Backup: Battery
Environmental Conditions	- Operating temperature range- Humidity levels	Temperature: -10°C to 50°C, Humidity: 10% to 90%
Security Features	- Physical security measures- Network security protocols	Security: CCTV, Access Control
Maintenance Requirements	- Regular maintenance schedules - Fault tolerance features	Maintenance: Quarterly

Technical Parameters for Lines	Details	Example
Coordinates	- Geographical coordinates: longitude and latitude in the WGS- 84 coordinate system with an accuracy of 1 m	Longitude: 9.1910, Latitude: 45.4650
Layer of Cable	- Backbone - Distribution - Access	Layer: Distribution
Type of Line	- Fibre optic - Coax - Copper - Radio	Type: Fibre Optic
Fibres	- Fibres of the optical cable	Fibres: 24
Source of Funding	- Commercial- State aid	Funding: State Aid
Length of Line	- Total length in meters/kilometers	Length: 2 km
Installation Date	- Date of installation	Installation: 2023-01-15
Expected Lifespan	- Estimated operational lifespan	Lifespan: 20 years

Technical Parameters for Mobile Towers	Details	Example
Coordinates	- Geographical coordinates: longitude and latitude in the WGS-	Longitude: 9.1920, Latitude: 45.4660

	84 coordinate system with an accuracy of 1 m	
GSM Cell Technology	- 2G- 3G- 4G- 5G	Technology: 4G
GSM Cell Identifier	- Unique identifier of the corresponding GSM cell	Identifier: GSM123
Tower Height	- Height of the tower in meters	Height: 50 m
Coverage Area	- Radius of coverage area in meters/kilometers	Radius: 10 km
Frequency Bands	- Frequency bands supported	Bands: 700 MHz, 1800 MHz, 2600 MHz
Capacity	- Maximum number of connections supported	Capacity: 1000 users
Service Mapping Systems		
Datasets for Service Mapping	Details	Example
Building Address	- Province - Commune - Unique identifier - Town name - Street name - Building number	Province: Lombardy Commune: Milan Identifier: 67890 Town: Milan Street: Via Verdi Building: 15
Coordinates	- Geographical coordinates: longitude and latitude in the WGS-84 coordinate system with an accuracy of 1 m	Longitude: 9.1930, Latitude: 45.4670
Medium	- Fibre optic - Coax - Copper - Radio	Medium: Coax
Access Network Technology	- Ethernet - Fast Ethernet - Gigabit Ethernet - GPON - EPON - DWDM - CWDM - SDH - PDH - (EURO)DOCSIS - VDSL - ADSL - HDSL	Technology: DOCSIS 3.1

	<ul style="list-style-type: none"> - POTS/ISDN - Radio link - WiFi - WiMAX 	
Possible Services	- Fixed Internet access- Fixed line POTS and ISDN- VoIP telephony- IPTV or DTV	Services: Fixed Internet, IPTV
Maximum Bandwidth	- Download and upload bandwidths	Download: 500 Mbps, Upload: 50 Mbps
Provided Services	- Fixed Internet access- Fixed line POTS and ISDN- VoIP tele	