

Document for Public Consultation

FTTH Access Network Licensing and Deployment Policy

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Executive Summary

Broadband infrastructure has become a critical enabler of economic growth, digital transformation, innovation, and social inclusion. High-capacity broadband networks support a wide range of digital services, including e-government, e-commerce, cloud computing, artificial intelligence, remote education, telemedicine, and advanced industrial applications. As countries increasingly transition toward digital economies, the availability of reliable, affordable, and high-quality broadband connectivity has become a strategic national priority.

Lebanon's telecommunications sector is undergoing a critical transition. Increasing demand for broadband connectivity, rapid technological developments and the expansion of digital services require an enabling regulatory framework, infrastructure investment, and sustainable competition.

At present, the sector faces several structural challenges including fragmented fixed broadband infrastructure and the presence of widespread unregulated broadband networks. Addressing these challenges requires coordinated reforms and transitional arrangements in order to fulfil policy objectives and customer satisfaction.

This policy paper proposes a regulatory framework for a staged rollout of fiber access infrastructure taking into consideration existing market structure and in line with the Law 431/2002 and Licensing regulation issued by the TRA.

The objective is to modernize network infrastructure, address illegal existing fixed broadband activity, attract private investment, and prepare Lebanon for next-generation digital services, fiber broadband, and emerging digital platforms.

The framework presented in this document is designed to support two main strategic outcomes: sustainable FTTH investment, and improved connectivity services for citizens and businesses.

This consultation forms part of a broader and coordinated roadmap for the modernization of Lebanon's broadband sector and should not be viewed as a standalone initiative. It is being advanced in parallel with the Spectrum Refarming Consultation and will be complemented by other regulatory initiatives, including the planned Optical Fiber Deployment Guidelines, the development of a Right-of-Way framework, and the potential review of the Spectrum Management and Licensing Regulation and the Service Providers Licensing Regulation. Together, these complementary workstreams are intended to establish a coherent and comprehensive regulatory framework for the development of both fixed and wireless broadband networks, addressing access, infrastructure deployment, spectrum use, and the broader conditions necessary to support investment and competition.

1. Policy Objectives

In order to address the challenges identified above and evaluate the Licensing Policy and deployment options presented in this document, the following policy objectives are proposed:

- **Infrastructure Modernization:** Lebanon must accelerate investment in advanced telecommunications infrastructure particularly FTTH access networks. National backbone infrastructure is outside the scope of this document.
- **Sustainable Competition:** The regulatory framework should promote a balanced service-level and access infrastructure competition while ensuring that operators maintain sufficient scale and incentives to sustain long-term investment.
- **Transition of Unlicensed Broadband Networks into the Regulatory Framework:** A significant portion of Lebanon's broadband access infrastructure has been deployed and is operated outside the formal legal and regulatory framework. The policy aims to facilitate the migration of subscribers from these networks to regulated broadband infrastructure and services. Such migration should not be interpreted as granting any automatic right to regularization.
- **Digital Transformation:** The telecommunications sector should serve as a foundation for Lebanon's digital economy by enabling cloud services, digital platforms, and advanced data connectivity.
- **End-User Focus:** The policy framework should promote the availability, affordability, accessibility, and quality of broadband services, ensuring that citizens, businesses, and public institutions benefit from reliable connectivity and improved access to digital services throughout Lebanon.

2. Access Infrastructure Competition and Benchmark

A central policy question facing regulators worldwide is the extent to which competition should occur at the broadband access infrastructure level versus the service level. Broadband access infrastructure competition refers to a market structure in which multiple operators deploy and operate their own fixed broadband access networks—such as fiber-to-the-home (FTTH), fixed wireless access (FWA), or other access technologies—to provide broadband services to end-users. Infrastructure competition is generally viewed as a powerful driver of investment, innovation, network modernization, and service differentiation. However, it may also lead to duplication of infrastructure, inefficient allocation of resources, and reduced investment returns, particularly in smaller or less densely populated areas.

International experience demonstrates that there is no single model for FTTH deployment. The appropriate approach depends on national market characteristics, existing infrastructure, investment incentives, and regulatory objectives. Recognizing these trade-offs, countries have adopted different regulatory approaches depending on their market characteristics, population density, geography, and policy objectives. Some jurisdictions, such

as Spain, Portugal, and France, have promoted extensive infrastructure-based competition among multiple fiber operators. Others, including Singapore, Australia, and New Zealand, have adopted wholesale-focused models based on a single national access network with competition occurring primarily at the retail service level. A third group of countries, including the United Kingdom, Bahrain, and Oman, have pursued a hybrid approach, whereby a dominant infrastructure provider is subject to open access obligations that allow competing service providers to use the network on fair and non-discriminatory terms.

The choice of broadband competition model has significant implications on investment levels, network coverage, service quality, retail prices, and the long-term sustainability of the sector. While infrastructure competition can stimulate innovation and investment in densely populated urban areas, it may be economically inefficient in rural/remote areas where the duplication of ducts, poles, fiber routes, and access networks cannot be justified by the available demand. In such circumstances, regulators increasingly rely on open access frameworks, wholesale access obligations, infrastructure sharing arrangements, and public-private partnerships to balance competition objectives with investment efficiency.

In Lebanon, the question of broadband infrastructure competition is particularly relevant in light of the ongoing reform of the telecommunications sector, the transition toward fiber-based broadband networks and the rationalization of existing wireless broadband infrastructure. The country currently exhibits characteristics of both infrastructure fragmentation and insufficient investment, making it necessary to carefully evaluate international experiences and identify the regulatory model most suited to Lebanon's market size, geography, investment requirements, and digital development objectives.

3. Broadband Access Market in Lebanon

According to the previous telecom legal framework, the provision of telecommunications services in Lebanon is reserved exclusively to the Ministry of Telecommunications. Therefore, the Ministry's infrastructure spans the full telecommunications value chain, from international and Internet connectivity to national and metropolitan backbone infrastructure and access networks. However, broadband access is currently provided primarily over copper infrastructure, with limited fiber deployment concentrated in ten main exchanges, representing approximately 155,000 homes passed. Additional fiber connectivity exists through a number of isolated deployments scattered across various exchanges throughout the country.

Historically, the Ministry primarily provided voice and leased-line services at both the national and international levels. With the emergence of Internet services, the Ministry began licensing Internet Service Providers (ISPs) in 1996. Under this model, the Ministry provided international Internet connectivity to licensed ISPs, while the ISPs provided dial-up Internet access services to end users.

In 2006, the Ministry deployed a DSL network, enabling the provision of retail broadband services to end users while also offering wholesale access to licensed ISPs.

To support the modernization of Lebanon's broadband infrastructure, the Ministry launched a major fiber access network investment program in 2018 under the 2017 Government Budget Program Law, appointing Ogero to implement the national rollout program. The program involved an investment of approximately USD 300 million over a three-year period with the objective of extending fiber coverage nationwide. However, the planned rollout was only partially completed, resulting in the deployment of FTTH covering approximately 155,000 homes passed across ten exchanges, together with a number of FTTC cabinets deployed in approximately seventeen additional exchanges.

More recently, the Ministry announced a new phased fiber deployment program for the period 2026–2030. The program envisages investments exceeding USD 100 million and aims to extend fiber coverage to approximately 668,000 homes passed by the end of the implementation period.

In parallel, in 1996 and 2000, the Ministry issued a series of decrees licensing Wireless Data Service Providers (DSPs) for an initial period of five years, subsequently renewed on an annual basis. These licenses primarily authorized the provision of wireless connectivity to end users under a revenue-sharing arrangement, whereby licensees currently pay 25% of their revenues to the Ministry. A total of nine DSP licenses were issued, including Sodetel, a State-affiliated provider.

Over time, DSPs were granted additional rights through a number of regulatory decisions, including granting DSPs access to the copper local loop through Local Loop Unbundling (LLU), allowing them to install their DSLAM equipment in central offices and provide wholesale broadband services to affiliated Internet Service Providers (ISPs). And granting the DSPs rights of way (RoW) to access the Ministry's underground telecommunications passive infrastructure for the deployment of fiber access networks.

The uptake of these rights remained limited. Under the LLU framework, only four DSPs deployed DSLAM equipment across more than 35 central offices. Similarly, fiber deployment through the granted RoW remained limited, with GDS deploying fiber networks in four central offices and Sodetel deploying a single fiber cable in one central office.

The regulated broadband market landscape as of March 2026 is summarized in the table below where the total number of households in Lebanon is estimated at approximately 1.2 million:

Type	MoT/Ogero	Other ISPs	Penetration
ADSL	180,417	83,960	22.03%
FTTC	21,577	7,867	2.45%
FTTH	37,007	11,293	4.03%

Type	MoT/Ogero	Other ISPs	Penetration
LTE-A	15,541	-	1.30%
OTHER	1,287	1,526	0.23%
VDSL	54,017	11,556	5.46%
	309,846	116,202	35.50%

(Source: Ogero report March 2026)

The current broadband market structure reveals a number of important characteristics and challenges that should be taken into consideration when evaluating future deployment and licensing options.

DSL services are experiencing a continuous decline across all regions, largely due to the deterioration in service quality and the limitations of the aging copper infrastructure.

Approximately 36% of ISP-provided DSL and VDSL subscriptions are delivered through DSP networks. In addition, official subscriber data for the GDS fiber network is not available although the number of subscribers is estimated to be approximately 6,000.

Overall, broadband penetration within the regulated market stands at approximately 35.5% of households. However, this figure does not take into account the geographical distribution and availability of the various access technologies.

In addition, the FTTH penetration rate within the ten fiber-enabled central offices is approximately 31.2%, based on an estimated 155,000 homes passed. This relatively modest take-up rate may indicate limited customer adoption, competition from alternative broadband access technologies, affordability constraints, or other barriers to migration.

In parallel to the regulated market, a significant number of resellers operate broadband access networks without the required licenses or regulatory approvals. It is estimated that more than 3,000 resellers provide broadband services through wireless and fiber access networks deployed outside the formal regulatory framework. These networks are often deployed in an uncoordinated manner, including building-to-building connections, the use of electricity poles and other public rights of way without adherence to recognized engineering, safety, or telecommunications infrastructure standards.

Based on data submitted by licensed ISPs to the TRA, the number of subscribers served through these unregulated networks is estimated at approximately 800,000, corresponding to a household penetration rate of approximately 66.7%. This is roughly twice the number of subscribers served through regulated broadband networks. It should be noted that the combined regulated and unregulated penetration figures exceed 100% of estimated households, reflecting possible overlaps (including premises holding multiple subscriptions) and the estimative nature of the reseller data;

The broadband ecosystem is therefore highly fragmented and characterized by overlapping and randomly deployed infrastructure, varying service quality, and uneven regulatory oversight.

Addressing these challenges requires an access licensing framework capable of integrating existing fixed broadband activity into the formal regulatory environment while creating the necessary incentives for continued investment in FTTH and wireless broadband infrastructures.

4. Assessment of the Passive Infrastructure Access (RoW) Framework and Implementation Bottlenecks

In 2018, a legal framework was introduced to facilitate the deployment of FTTH access infrastructure by granting licensed Data Service Providers (DSPs) access to existing passive telecommunications infrastructure owned and managed by the Ministry of Telecommunications/Ogero, including ducts, manholes, chambers, poles, and other civil engineering assets. The objective was to reduce deployment costs, avoid unnecessary duplication of infrastructure, accelerate fiber network rollout, and promote investment in next-generation broadband networks.

However, despite the issuance of a Decree in 2018, implementation outcomes have been limited. To date, fiber deployment under the framework established by the old regulatory framework has effectively been confined to a small number of central office service areas, indicating the existence of significant barriers to the utilization of the passive infrastructure access. The limited uptake of the framework suggests that the main obstacles are not primarily related to the legal framework itself, but rather to operational, administrative, technical, commercial, and governance issues affecting the ability of licensed operators to effectively access and utilize the available passive infrastructure. Accordingly, a comprehensive assessment of the passive infrastructure access regime is required to identify these bottlenecks and determine the regulatory, operational, and institutional measures necessary to facilitate large-scale broadband deployment, maximize the utilization of existing national infrastructure assets, and support the policy objectives outlined in this document.

5. Absence of Standardized Requirements for FTTH Deployment and Passive Infrastructure Access.

Another important factor affecting the rollout of fiber networks is the absence of a comprehensive set of technical, operational, and engineering standards governing the deployment of FTTH broadband access networks using the Ministry of Telecommunications'/Ogero's passive telecommunications infrastructure. While the current RoW regulation establishes the principle of passive infrastructure access, it does not provide a sufficiently detailed framework covering the practical aspects of network deployment,

infrastructure utilization, construction methodologies, asset management, and operational coordination between infrastructure owners and access seekers.

As a result, implementation has often been characterized by inconsistent practices, project-specific approaches, and differing interpretations of deployment requirements, leading to delays, increased costs, operational disputes, and concerns regarding network quality and infrastructure integrity.

To address these challenges, the TRA has prepared a broader regulatory package comprising a draft Right of Way Framework and draft Optical Fiber Deployment Guidelines. While these draft instruments have not yet been formally adopted or issued for public consultation, they are intended to establish a common set of technical, operational, and engineering requirements for passive infrastructure access and FTTH network deployment, while facilitating operational coordination and ensuring transparency, consistency, and non-discriminatory treatment of all market participants.

6. FTTH Access Licensing and Deployment Options

The future broadband access licensing framework should support large-scale investment in FTTH and other next-generation access networks while ensuring the efficient utilization of existing telecommunications infrastructure, sustainable competition, and alignment with national broadband policy objectives.

Under all options, the Ministry of Telecommunications (MoT)/Ogero, and, in the future, Liban Telecom, would continue to play a central role as the incumbent infrastructure provider, owning and managing the national fixed telecommunications infrastructure, including ducts, chambers, manholes, poles, copper and fiber access networks, central offices, and other passive and active network assets. Given the extensive footprint and strategic importance of this infrastructure, the incumbent will remain a key enabler of broadband deployment and market development. Consequently, any future licensing framework should ensure that the incumbent's infrastructure is made available to licensed operators on a transparent, fair, reasonable, and non-discriminatory basis, subject to appropriate open-access obligations and regulatory oversight.

In this context, the incumbent will continue to play a dual role as both a retail service provider and a wholesale infrastructure provider, thereby facilitating efficient infrastructure utilization, minimizing unnecessary network duplication, accelerating broadband rollout and supporting sustainable competition in downstream retail markets.

In addition to the MoT/Ogero broadband infrastructure and offers, the TRA presents two alternative licensing and deployment options for consultation, as described below. The final regulatory approach will be determined following consideration of stakeholders' comments. Both options would be implemented pursuant to Law 431/2002, in particular the licensing

powers vested in the Authority thereunder, and the Licensing Regulation issued by the TRA, together with any further regulatory instruments that may be required. In addition to the two options presented in this consultation, stakeholder feedback and the Authority's subsequent assessment may also lead to the development of a third or alternative option.

Option 1 – FTTH roll out by Existing DSP Licensees (or as a Consortium Thereof)

This option builds upon the existing regulatory framework and the existing licenses granted to Data Service Providers (DSPs). Rather than introducing a new licensing regime, it seeks to operationalize and strengthen the existing framework by enabling licensed DSPs or a consortium thereof to deploy broadband access infrastructure using the passive telecommunications infrastructure owned and managed by the Ministry of Telecommunications (MoT)/Ogero.

Under this approach, existing DSP licensees or a consortium thereof wishing to deploy access infrastructure would be required to submit a comprehensive **3-to-5-year Broadband Network Rollout Plan** for assessment by the TRA. The plan would constitute the basis for assessing the seriousness, technical capability, and financial capacity of the DSP.

The FTTH Network rollout plan should include, at a minimum:

- Proposed geographic coverage areas and deployment phases;
- Detailed network architecture;
- Annual rollout targets and implementation milestones;
- Capital expenditure (CAPEX) and operational expenditure (OPEX) forecasts;
- Sources of financing and evidence of funding commitments;
- Projected subscriber acquisition and service penetration targets;
- Quality of Service (QoS) commitments;
- Risk assessment and mitigation measures.

This approach would enable the immediate activation of the existing regulatory framework without requiring significant legislative or licensing reforms, while allowing the TRA to identify operators capable of undertaking meaningful infrastructure investment, supporting the development of open-access broadband infrastructure, and accelerating broadband deployment across the country.

Open Access Obligations

Under this option, FTTH access networks deployed by DSPs would operate on an open-access basis. DSPs would be required to make their broadband access infrastructure available to licensed ISPs on a transparent, fair, reasonable, and non-discriminatory basis, subject to regulatory oversight by the TRA.

The objective is to promote service-level competition while avoiding unnecessary duplication of access infrastructure. Under this model, DSPs would primarily act as infrastructure providers, while licensed ISPs would compete in the provision of broadband services to end users through wholesale access arrangements.

The detailed terms and conditions governing access, including technical interfaces, service levels, operational procedures, and pricing principles, would be established by the applicable regulatory framework.

License Extension and Regulatory Certainty

Recognizing that FTTH infrastructure investments typically require long investment recovery periods, DSP operators could be granted an amended license or supplementary authorization extending their rights to deploy and operate FTTH access infrastructure for a duration to be determined following consultation.

The extended license term would:

- Provide regulatory certainty and investment security;
- Facilitate access to financing and long-term capital;
- Support large-scale FTTH and broadband deployment;
- Enable operators to recover infrastructure investments over an appropriate period;
- Align deployment obligations with long-term national broadband objectives.

Financial Obligations

Under their existing licenses, DSPs would remain subject to all existing financial obligations, including:

- The **25% revenue-sharing obligation** specified in their current licenses;
- Applicable administrative and regulatory fees;

- Applicable fees for access to and use of MoT/Ogero passive infrastructure, in accordance with the applicable legal framework and regulations.

The continuation of the revenue-sharing mechanism ensures consistency with the existing licensing framework and preserves the State's financial return from the exploitation of public telecommunications assets and Licensing fees.

The financial setup may change upon issuance of new licenses and a new Right of Way regulation.

Option 2 – Competitive Assignment of National and/or Regional FTTH Access Licenses

Under this option, the Authority would establish a new access licensing framework based on the competitive assignment of FTTH access licenses through a transparent selection process, such as an auction, beauty contest, comparative evaluation process, or a combination thereof.

Unlike Option 1, which builds upon the existing DSP licensing framework, this option would introduce a new category of access license specifically designed to support long-term investment in FTTH access infrastructure and facilitate the development of a sustainable and competitive broadband access market.

The licensing framework could provide for either:

- **National FTTH Access Licenses**, granting the right to deploy and operate broadband access networks throughout Lebanon; and/or
- **Regional FTTH Access Licenses**, granting rights within defined geographic areas or groups of governorates.

The final licensing structure would be determined following the consultation, taking into consideration a market assessment, investment requirements, market size, competition objectives, and national broadband policy goals.

License Rights and Obligations

FTTH Licensed operators would be granted the right to deploy and operate broadband FTTH access infrastructure, and to access the passive telecommunications infrastructure of the Ministry of Telecommunications/Ogero in accordance with the applicable infrastructure access framework.

In return, licensees would be subject to a range of obligations, including:

- Rollout obligations and minimum coverage requirements that will be defined taking into consideration equitable conditions for deployment between urban and rural areas;
- Quality of Service (QoS) obligations;
- Compliance with passive infrastructure access and deployment standards;
- Open-access obligations set by TRA where applicable;
- Reporting and performance monitoring requirements;
- Infrastructure sharing and non-discrimination obligations;
- Applicable licensing, regulatory and infrastructure access fees.

Rollout Commitments

Applicants would be required to submit a detailed multi-year broadband deployment plan outlining:

- Geographic coverage commitments;
- Deployment milestones and implementation schedule;
- Planned investments and financing arrangements;
- Subscriber and service penetration targets;
- Quality of Service commitments;
- Risk management and implementation strategy.

The approved deployment plan would form part of the licensing obligations and would be subject to periodic monitoring by the TRA.

License Duration and Investment Certainty

Given the long-term nature of broadband infrastructure investments, access licenses would be granted for a duration sufficient to support investment recovery and access to financing. The appropriate license duration would be determined following consultation, taking into account investment recovery, rollout obligations, market conditions, and the need for regulatory certainty.

The objective is to encourage long-term infrastructure investment and facilitate the financing of large-scale broadband deployment projects.

7. Consultation Questions and Process

The Authority invites comments from all interested stakeholders on any aspect of this document, including but not limited to the following questions:

Q1. Which of the FTTH access licensing and deployment options presented in this consultation would best serve Lebanon's broadband objectives, and why?

Q2. Should the TRA consider any alternative FTTH access licensing and deployment option beyond those presented? If so, please describe the proposed option and provide supporting regulatory, technical, economic, and implementation justification

Q3. Under Option 2, should FTTH access licenses be national, regional, or a combination of both, and what criteria is best used to define regional areas?

Q4. What license duration would be appropriate to support investment recovery and access to financing for FTTH deployment?

Q5. What should be the scope and timing of open-access obligations, and should these differ between urban and rural deployments?

Q6. Is limited, time-bound investment protection justified in high-cost or underserved areas, and if so, under what conditions and safeguards?

Q7. How should the principle of equitable deployment between urban and rural areas be operationalized within rollout obligations (for example, through paired-area commitments, phased coverage ratios, or credit-based mechanisms)?

Q8. Under Option 2, which selection mechanism (auction, beauty contest, comparative evaluation, or a combination) would be most appropriate, and what evaluation criteria should apply?

Q9. Are there additional issues, data sources, or international experiences that the Authority should take into consideration?

Responses should be submitted by email to ftthnetworkrollout@tra.gov.lb no later than the closing date indicated on the cover page. Respondents are requested to structure their submissions by reference to the question numbers above where practicable or to sections where applicable. Any information considered confidential should be clearly identified and provided in a separate annex; the Authority may publish non-confidential responses, or a summary thereof, on its website. The Authority may also convene bilateral meetings or a public session with stakeholders where it considers this useful for the assessment of responses.

8. Conclusion

Lebanon's telecommunications sector has the potential to become a key driver of economic growth, digital transformation, and social development. However, realizing this potential requires addressing the structural challenges that currently affect broadband deployment, including fragmented infrastructure, the widespread presence of unregulated networks, and the limited rollout of next-generation access infrastructure.

The implementation of the proposed policy framework will facilitate the modernization of broadband access networks, support the migration of subscribers to regulated infrastructure, encourage sustainable private investment, and improve connectivity services for citizens and businesses across the country.

By combining effective infrastructure access arrangements, clear deployment standards, appropriate licensing mechanisms, and a forward-looking regulatory framework aligned with international best practices, Lebanon can accelerate the deployment of FTTH and other advanced broadband technologies while promoting sustainable competition and efficient infrastructure utilization.

The proposed licensing and deployment options provide a practical pathway toward achieving the national broadband objectives and supporting Lebanon's transition to a competitive and digitally enabled economy.