



The Telecommunications Regulatory  
Authority's draft Work Plan (2022-2023)

## CONSULTATION REPORT

GDO/0722/114

28 July 2022

# INTRODUCTION



On 22 April 2022, the Telecommunications Regulatory Authority (the “Authority”) launched a public consultation to seek stakeholders’ views on the draft Work Plan for 2022-2023 (the “Work Plan”).



The draft Work Plan included the Authority’s recurring and non-recurring workstreams for the mentioned period.



The deadline for responses to the consultation was 24 May 2022.



The Authority received responses from BNet, Batelco, Zain, STC, Apple, Qualcomm, Wi-Fi Alliance and a multi-company response from Apple Inc., Broadcom Inc., Cisco Systems Inc., Meta Platforms Inc., Hewlett Packard Enterprise, Intel Corp, and Microsoft Corp.



The comments received from all respondents are summarised in **Annex 1** to this Consultation Report, as are the Authority’s responses to each comment.



This Consultation Report reflects the views of the Authority on comments received in response to the Consultation Document. The Authority's views as expressed in this Consultation Report are intended to provide an explanation of the Authority's position on the comments received from the respondents.



The Authority would like to thank all the respondents for their submissions. The Authority would also like to thank some respondents for providing a list of proposed projects for the Authority to consider. These inputs have been particularly useful to the Authority to finalise its position. The list of proposed projects by some licensees can be found in **Annex 1**.



Based on received responses and after thoughtful consideration, the Authority decided to introduce a new project "**Review of the SIM Registration Regulation**". The Authority also took note of the industry's responses to the "**WACC**" and "**Cost Model**" projects and has therefore decided to postpone the projects until further notice.



The final Work Plan is appended as **Annex 2** to this Consultation Report.



Through its final Work Plan, the Authority reiterates its aim to meet government policy, to ensure the Kingdom of Bahrain enjoys a reliable, secure and resilient network and to protect and empower consumers to the best of its ability. The Authority will also provide regular updates on the status of the projects listed in its work plan to ensure complete transparency with the industry and efficiency in completing its tasks.



## Annex 1

### Summary of responses received on the TRA Work Plan Consultation and the Authority's conclusions

#### NON-RECURRING PROJECTS

Project	Summary of Comments received	The Authority's view and conclusion
<b>1 Review of the Licensing Framework of the Telecommunications Sector</b>		
<b>BNET</b>	<p>1. BNET suggests that the Authority considers moving the timetable of this project to 2023 to allow development of higher priority projects in 2022.</p> <p>2. BNET'S initial license was issued in the midst of the separation process and contains provisions that make specific references to matters to be tackled as part of this process. BNET believes It may be necessary to streamline the license and refocus the obligations in a post-separation environment.</p>	<p>The Authority considers the Review of the Licensing Framework project a high priority initiative seeing that the licensing framework forms an essential component of the overall regulatory framework governing the communications sector in the Kingdom of Bahrain. Government's policy as stated under the section titled 'Review of the Telecommunications Law' of the NTP4 requires, amongst other things, a review of the existing provisions of the Law in line with international best practice as well as a review of related legal instruments to address industry developments. NTP5 also noted that the licensing regime is at the heart of the legal and regulatory framework of the sector, and acknowledged that over the coming years, there are likely to be new types of services and network suppliers emerging, such as for IoT and 5G services.</p> <p>With respect to BNET's suggestion that its current license be tackled as part of the review of the licensing framework project, the Authority has already made it clear in the consultation paper of this project that the review of the FTINL is not within the scope of the project seeing that BNET is the sole holder of such bespoke license. The Authority notes that BNET's specific concerns go beyond the scope of the project, which is limited to the amendments the Authority proposes to make to the overall framework to meet the stated objectives for the review, and the proposed substantive amendments to the Individual Licence and Class Licence templates.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>1 Review of the Licensing Framework of the Telecommunications Sector</b>		
<b>STC</b>	<p>1. STC welcomes the introduction of this initiative. However, under the current framework, Batelco, which carries SMP in the fibre broadband market, in domestic connectivity market and in international connectivity market, has more favorable licensing terms and conditions in comparison to its competitors.</p> <p>2. Based on the Authority's mandate to ensure non-discrimination amongst licensees, STC urges the Authority to consider undertaking a thorough comparative exercise between these licenses to remove/ amend any imbalanced/partial conditions</p>	<p>The Authority notes stc's comments that consistency can only be met when all granted licences, for a specific category, are truly identical in terms of the enforceable obligations in order to ensure a level playing field among licensees in accordance with Articles 3(a) and 29(e) of the Law.</p> <p>The Authority also notes that a unified licensing framework, as proposed by the Authority, will enable the Authority and operators alike to act in accordance with the Government's strategic direction.</p>
<b>Qualcomm</b>	<p>1. Qualcomm supports the review of the Licensing Framework of the Telecommunication Sector in the Kingdom of Bahrain.</p> <p>2. Qualcomm suggest a number of principles to be considered when transitioning to a new licensing framework:</p>	<p>The Authority notes Qualcomm's response and wishes to reassure Qualcomm that it is already actively taking into account these principles as part of its project in reviewing the Licensing Regime.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>1 Review of the Licensing Framework of the Telecommunications Sector</b>		
<b>QUALCOMM</b>	<ul style="list-style-type: none"> <li>● Fostering service and technology neutrality.</li> <li>● Ensuring flexibility to allow the new licensing regime to accommodate future technological and market changes.</li> <li>● Lowering the entry barriers including administrative and procedural.</li> <li>● Reducing fees on market players.</li> <li>● Ensuring transparency.</li> <li>● Referring to international best practices and international regional organizations to help harmonize licensing approaches</li> </ul>	
<b>2 Review of Consumer Protection Regime</b>		
<b>STC</b>	<p>1. As highlighted in STC'S submission to the Authority's consultation on the "CPR Amendments" STC requested the Authority to dismiss its proposal due to the lack of rationale for the proposed amendments and the absence of an appropriate Impact Assessment.</p> <p>2. STC and the industry made very serious reservations on the economic impact of the following proposed amendments:</p>	<p>In order to strike out the right balance between the interests of the users and service providers; the Authority took into consideration the responses submitted in the consultation and RFIs.</p> <p>The Authority also acknowledges the changing nature of consumer protection consequently with the rapid technological changes which require seamless experiences and increase in transparency.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>2 Review of Consumer Protection Regime</b>		
<b>STC</b>	<ul style="list-style-type: none"> <li>● Early Termination Charges [i.e., not to exceed 50% of MRC]</li> <li>● Allow customers to terminate the contract without early termination fees;</li> <li>● 3. MNOs to maintain all measurements data for UL &amp; DL speeds experienced by customers.</li> </ul>	The Authority will conduct an impact assessment on the points raised in this context.
<b>BATELCO</b>	1. Batelco trusts that the review of the Consumer Protection Regulation will include a draft RIA to be consulted upon.	The Authority will be conducting impact assessments in relation to the proposed changes.
<b>ZAIN</b>	1. Given previous discussion held with the Authority in relation to the Draft Billing & Metering Regulation and the Draft Amendments to the Consumer Protection Regulation, Zain believes that the industry has provided sufficient justification that no critical issues exist that warrant an expedited intervention or review in these areas.	<p>With the swift technological changes, the Authority finds it necessary to revisit its regulatory measures to ensure proper placement of consumer protection regimes.</p> <p>The responses submitted by the operators on the consultation have been taken into consideration.</p> <p>Impact assessments will be carried out to guarantee striking out the right balance between the interests of both the users and the service providers.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>3 New Universal Service Regulation Framework</b>		
<b>BNET</b>	<p>1. BNET is of the view that consideration should be given to hard to cover areas (no economic rationale) and allow for potential USO contributions for such areas. If broadband is considered to fall under Universal Service, we would need clear definitions as well as a clear framework for deployment of service which could likely be provided below cost.</p> <p>2. BNET suggests moving this project to 2023 as BNET will be focused this year on implementing the new reference offer and progressing the asset transfer project.</p>	<p>The Authority included within the context of Affordable Services “adequate broadband internet access service”.</p> <p>The Authority will issue a determination at a later stage which includes the specifications and conditions.</p> <p>The consultation shall also include a proposed funding chapter in this relation.</p>
<b>STC</b>	<p>1. STC supports the initiative to amend the US framework to include broadband services. However, in a small market such as Bahrain with limited economies of scale and a crowded supply comprising 12 Internet service providers, the creation of a US fund should not be implemented in a manner that creates an additional burden to Operators. The fund should hence be sought to be paid from the existing regulatory fees that are due by licensees to the Authority.</p>	<p>A determination on the specifications and conditions will be issued and a funding proposal will be consulted on.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>3 New Universal Service Regulation Framework</b>		
<b>BATELCO</b>	<p>1. Batelco supports a review of the current Universal Service Regulation Framework.</p>	<p>Noted.</p>
<b>4 Support for Innovation</b>		
<b>BNET</b>	<p>1. To maintain the Authority's independence, we recommend refraining from operational matters that could influence the outcome of the project but encourage the Authority to set out the regulatory framework including the roles and responsibilities of each party (see for example the CBB's FinTech Regulatory Sandbox).</p>	<p>The Authority wants to highlight that it does not intend to interfere in the operations rather than creating an environment that encourage the testing/deployment of the latest technologies.</p>
<b>STC</b>	<p>1. STC welcomes the introduction of this project. However, as requested in STC's submission to the Authority's Regulatory Sandbox consultation, the Authority shall ensure that:</p> <ul style="list-style-type: none"> <li>● The Sandbox is restricted to existing licensees to avoid new entrants disrupting licensed operators' business plans and jeopardizing their future Investments in new technologies;</li> <li>● The Sandbox's participant's journey includes:</li> </ul>	<p>The Regulatory Sandbox will not result in the direct licensing of new entrants. It will help remove regulatory barriers for entities wanting to test innovative solutions and experiment in a real time environment.</p> <p>The Authority does not concur with STC that the sandbox should be available only to existing licensees. The purpose behind the sandbox is predominantly to enable innovation of new technologies in relation to the telecommunications sector more generally. The Authority wishes to attract all technologists to test their innovative products in the Kingdom and should therefore not be limited by the target beneficiaries of this proposal.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>4 Support for Innovation</b>		
<b>STC</b>	<ul style="list-style-type: none"> <li>- Market impact assessment;</li> <li>- Consultation with the industry key players on the potential innovations; and</li> <li>- A transparent communication process.</li> </ul>	<p>Furthermore, The Authority does not necessarily agree that LOs should play a role in the process of reviewing the impact of proposed innovations. It is for the participants to determine if they wish to divulge information to third parties.</p>
<b>BATELCO</b>	<p>1. Batelco fully supports the creation of a “test and trial” scheme to facilitate innovation and fast adoption of emerging concepts and technologies.</p>	<p>Noted.</p>
<b>5 Review of the Number Portability Regulation (NPR)</b>		
<b>BNET</b>	<p>1. BNET welcomes the review of the Number Portability Regulation (NPR). BNET agrees with the Authority that the scope of the NPR should be broadened to include portability in general and focus on including (and improving) the current process for broadband service transfer within the NPR. BNET kindly requests the Authority to fast track this project.</p>	<p>The Authority notes BNET's agreement with the proposed scope of the NPR. BNET's recommendation to fast track this project is also noted, the Authority will endeavor to finalise this project as soon as possible.</p>
<b>STC</b>	<p>1. STC agrees with the TRA on this initiative which shall be oriented towards promoting competition and facilitating transfer transactions instead of protecting operators with SMP.</p>	<p>The Authority notes stc's agreement with the goals of this initiative. With regards to the recommendation on completing this project in-line/before the BNET RO, the Authority will endeavor to finalise this project as soon as possible.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>5 Review of the Number Portability Regulation (NPR)</b>		
<b>STC</b>	<p>2. STC believes that this initiative should be put in place in-line or before the upcoming BNet RO.</p>	
<b>BATELCO</b>	<p>1. Batelco fully supports this review and would urge that it be conducted as soon as possible and that it incorporates the WBS Transfer Process that is now in effect.</p> <p>2. Batelco remains of the view that the Number Portability and WBS Transfer processes should closely mirror one another.</p> <p>3. Batelco submits that it would be possible, reasonable, and fair to all to create a single regulation covering both processes.</p>	<p>The Authority will endeavor to finalise this project as soon as possible. The Authority notes that it will take into account the current Number Portability Regulation when drafting the legal instrument that will be applicable to the WBS Transfer Process.</p>
<b>6 BNET Governance Independence</b>		
<b>BNET</b>	<p>1. BNET suggests that the Authority considers fast-tracking this project to complete in Q3 2022.</p>	<p>BNET's comments are noted and the Authority will endeavour to complete the project by Q3 2022.</p>
<b>STC</b>	<p>1. STC fully supports TRA's initiative to review BNet Governance and request the Authority to expedite its related consultation.</p>	<p>STC's comments are noted and the Authority will endeavour to finalise the project by Q3 2022. The project will not however, consider the shareholding of BNET.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>6 BNET Governance Independence</b>		
<b>STC</b>	<p>2. STC requests that the TRA enables OLOs' right to co-invest in BNet. STC believes that this the most appropriate approach to ensure BNet compliance with its licensing Eol obligations.</p>	
<b>BATELCO</b>	<p>1. Batelco understands why a review is necessary and has no objection to it.</p> <p>2. Batelco, however, would also note that BNET's proper functioning including equivalence of input is dependent upon all remaining OLO fibre assets being transferred to BNET.</p>	<p>The Authority agrees that Eol is dependent upon BNET being able to operate independently of Batelco and for this reason it is imperative that the effective transfer of all the requisite assets from Batelco to BNET happens in the shortest time possible. It does not agree that Eol is dependent on OLO assets but nevertheless BNET and OLOs are reporting considerable progress in the related discussions.</p>
<b>7 BNET RO review and Cost model</b>		
<b>BNET</b>	<p>1. BNET understand that TRA may not proceed with the cost model as such this will be a review of the proposed /submitted price terms and non-price terms. We suggest that the Authority considers fast-tracking this project to complete in Q2 2022.</p>	<p>The Authority is finalizing the review of Reference Offer which is expected to be completed as per the timeline set in the plan. Moving forward the Authority will consider what will be the most suitable model for setting prices for BNET.</p>
<b>STC</b>	<p>1. STC agrees with this initiative and expects that this is completed by Q2 of 2022.</p>	<p>Noted.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>8 WACC Review</b>		
<b>BNET</b>	<p>1. BNET notes to the Authority that a balance needs to be found between BNET's regulatory obligations with respect to deployment and investment against BNET's ability to receive a reasonable return on this investment. It must also be factored that, in the event of structural changes to BNET's ownership, the WACC must not hinder BNET's ability to raise capital at reasonable cost.</p> <p>2. Given the extensiveness of this exercise, BNET sees that completion target may be unreasonable.</p>	<p>The Authority takes note of the industry's response to this project and given the various moving parts and uncertainties highlighted. The Authority is of the view that this project will be postponed.</p>
<b>STC</b>	<p>1. STC agrees with this initiative which we believe should be expedited to be part of BNet ongoing cost model and BNet RO.</p>	<p>The Authority takes note of the industry's response to this project and given the various moving parts and uncertainties highlighted. The Authority is of the view that this project will be postponed.</p>
<b>ZAIN</b>	<p>1. Zain believes that the industry is quite tied up and involved in a number of reviews and initiatives linked to the final stages of separation, including the transfer of OLO fibre assets, BNET's costing model and Reference Offer, and the Equivalence of Inputs issue.</p>	<p>The Authority takes note of the industry's response to this project and given the various moving parts and uncertainties highlighted. The Authority is of the view that this project will be postponed.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>8 WACC Review</b>		
<b>ZAIN</b>	2. Zain does not believe it is the right time to review the WACC as this may negatively affect and complicate the progress of these milestones. This is in addition to the fact that the current global economic situation is unstable, and any WACC review outcome could be skewed.	
<b>9 Market Review: Retail Broadband and Domestic Data Connectivity</b>		
<b>STC</b>	1. STC welcomes the introduction of this initiative. However, STC requests the Authority to expedite the review of these markets which significantly impacts competition in broadband and domestic data connectivity markets. The last review of these markets took place in 2014. This initiative should be completed, and eventual remedies put in place before the launch of BNet RO review.	Noted.
<b>BATELCO</b>	1. Batelco fully supports this market review noting that the last one was conducted in 2014 and the entire sector has since been fundamentally restructured by the creation of BNET and the transfer of Batelco's fibre network to BNET.	Noted.

Project	Summary of Comments received	The Authority's view and conclusion
<b>9 Market Review: Retail Broadband and Domestic Data Connectivity</b>		
<b>ZAIN</b>	<p>1. Based on the predatory and exclusionary anti-competitive behaviour during the last few years and especially during the separation process, this long overdue review must be finalised and issued by the Authority at the earliest and Ex Post regulatory measures applied when and where required.</p>	Noted.
<b>10 C-band Spectrum Award</b>		
<b>STC</b>	<p>STC reiterates its requests to the Authority to:</p> <ol style="list-style-type: none"> <li>1. Provide different valuations to the assigned lots across the C-band based on the lot position;</li> <li>2. Extend the C-band License duration to 25 years instead of 15 years; and</li> <li>3. Ensure non-discrimination among licensees and compensate MNOs other than Batelco an amount equivalent to a pro-rated amount of the spectrum usage rights fee incurred from the date of allocating the 100 MHz to Batelco to ensure fair and non-discriminatory treatment of all licensees.</li> </ol>	<ol style="list-style-type: none"> <li>1. No difference is seen in the value of the 3 lots in the C-band (3400-3700 MHz)</li> <li>2. A decision on the renewal of Frequency Licence will be made by the Authority prior to its expiry</li> <li>3. The Authority disagrees with stc's claim of discriminatory treatment. The Authority maintained consistency in terms of allocating temporary spectrum to MNOs (without charging for Spectrum Usage Right Fees). This is evidenced by the temporary spectrum allocated to stc (formerly Viva in 2011,2012 and 2013) in the 1800 MHz band prior to the 2013 spectrum award and in the 3500 MHz band in 2018 and 2019.</li> </ol>

Project	Summary of Comments received	The Authority's view and conclusion
<b>10 C-band Spectrum Award</b>		
<b>BATELCO</b>	<p>1. Batelco supports the proposal to award permanent (15-year) Frequency Licenses in the 3400-3700 MHz as this will improve the certainty which operators require in order to plan and invest.</p> <p>2. Batelco would urge the Authority to accelerate the award of the frequency licenses.</p>	Noted.
<b>QUALCOMM</b>	<p>1. Qualcomm strongly supports the award of the extended C-band spectrum (3400-3700 MHz band) for 5G.</p>	Noted.
<b>11 IoT Position Paper</b>		
<b>BNET</b>	<p>1. BNET would like to learn more of its role for IoTs especially that the current RO does not specifically envisage any IoT offerings that are economically viable.</p> <p>2. BNET welcomes the opportunity to support the adoption of new technologies within the Kingdom.</p>	<p>The Authority notes BNET's comments here and will invite stakeholders for their comments on a wider consultation on the IoT paper in due course.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>11 IoT Position Paper</b>		
<b>STC</b>	<p>1. STC welcomes the introduction of this initiative which would facilitate the launch of innovative services and materialize advanced IoT projects in the Kingdom.</p> <p>2. STC believes IOT services should be regulated in a light regulatory framework without regulatory constraints such as SIM registration regulation in order to promote innovation.</p>	<p>The Authority notes stc's comments. The Authority will invite stakeholders for their comments on a wider consultation on the scope of the IoT paper in due course.</p>
<b>QUALCOMM</b>	<p>1. Qualcomm supports all the efforts undertaken by the Kingdom of Bahrain to enhance digital transformation by creating the right ecosystem for emerging technologies including IoT.</p> <p>2. Qualcomm believes that in order to realise the significant social and economic benefits through the growth of IoT services, Governments must ensure supportive policies and regulation that are relevant, flexible, and technology neutral.</p> <p>3. With regard to spectrum policy for IoT, Qualcomm believes that spectrum harmonisation will be essential for IoT connected services as it enables global scale services and cost-effectiveness.</p>	<p>The Authority notes Qualcomm's suggestions. The Authority agrees that policies and regulations ought to be relevant, flexible and technology neutral. The Authority invites Qualcomm to participate in the wider consultation on the scope of the IoT paper later this year.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>11 IoT Position Paper</b>		
<b>QUALCOMM</b>	<p>4. A range of spectrum bands in the low, mid and high bands will be needed and should be considered for 5G Internet of Things (IoT) applications. Some IoT applications will demand ultra-high-bandwidth support and thus may work best in the millimeter wave (mmWave) bands, while other IoT applications will need low-power, low-duty-cycle, long-range performance and thus be best supported by the sub-6 GHz or sub-1 GHz bands.</p>	
<b>12 New Technologies spectrum needs plan</b>		
<b>STC</b>	<p>STC welcomes this project and requests the Authority to:</p> <ol style="list-style-type: none"> <li>1. ensure that spectrum resources in the 26 GHz and 28 GHz bands are maintained for P2P and P2MP applications and are not reallocated for 5G. This request is very crucial since STC intends to use these bands more widely for business connectivity requirements.</li> <li>2. Open the remaining lot in the 2.6 GHz band as top priority to support the 4G network expansion.</li> </ol>	<ol style="list-style-type: none"> <li>1. This project is aimed to develop a roadmap that meets the requirements for all spectrum stakeholders in Bahrain and supports GCC harmonization regardless of the technology used. Furthermore, the current / candidate IMT bands are considered according to the Fifth National Telecommunications Plan. These bands will be studied and coordinated among all stakeholders in the Kingdom.</li> <li>2. Opening the remaining lot in the 2.6 GHz band is under consideration.</li> </ol>

Project	Summary of Comments received	The Authority's view and conclusion
<b>12 New Technologies spectrum needs plan</b>		
<b>STC</b>	<p>STC welcomes this project and requests the Authority to:</p> <ol style="list-style-type: none"> <li>ensure that spectrum resources in the 26 GHz and 28 GHz bands are maintained for P2P and P2MP applications and are not reallocated for 5G. This request is very crucial since STC intends to use these bands more widely for business connectivity requirements.</li> <li>Open the remaining lot in the 2.6 GHz band as top priority to support the 4G network expansion.</li> </ol>	<ol style="list-style-type: none"> <li>This project is aimed to develop a roadmap that meets the requirements for all spectrum stakeholders in Bahrain and supports GCC harmonization regardless of the technology used. Furthermore, the current / candidate IMT bands are considered according to the Fifth National Telecommunications Plan. These bands will be studied and coordinated among all stakeholders in the Kingdom.</li> <li>Opening the remaining lot in the 2.6 GHz band is under consideration.</li> </ol>
<b>BATELCO</b>	<ol style="list-style-type: none"> <li>Batelco welcomes this project and recommends that it include other frequencies such as the 700, 2300, 2600, 3800, and mmWave.</li> </ol>	<ol style="list-style-type: none"> <li>All these bands are under consideration in the current roadmap.</li> </ol>
<b>APPLE</b>	<ol style="list-style-type: none"> <li>In areas with low or no network coverage, the priority should be to roll out networks and leverage the existing bands identified for IMT identified</li> <li>Apple believes 26 GHz is a prime IMT/5G mmWave band as it suits dense small cell networks in urban hotspots where additional capacity is vital.</li> </ol>	<ol style="list-style-type: none"> <li>The Authority agrees with this statement.</li> <li>These bands are under studies among the GCC and ASMG countries, and they will be considered during the implementation of the roadmap taking into account all spectrum stakeholders in Bahrain.</li> <li>The millimeter-wave spectrum bands will be studied and coordinated with all spectrum stakeholders in Bahrain during the implementation of the roadmap.</li> </ol>

Project	Summary of Comments received	The Authority's view and conclusion
<b>12 New Technologies spectrum needs plan</b>		
<b>APPLE</b>	<p>2. Apple notes that parts of 3.3-4.2 GHz are already used for IMT and will continue to serve as the basis of 5G rollouts over the coming decade. Apple believes it is vital to have balance between access to licensed midband spectrum within the 3.3-4.2 GHz frequency range and access to licence-exempt mid-band spectrum in 5925-7125 MHz.</p> <p>4. Apple believes that 5G services require an ecosystem available for more technologies than IMT-2020. This frequency range is important to these other 5G technologies and should be made available on a license-exempt basis, in alignment with the existing conditions for the 57-66 GHz frequency range.</p> <p>5. Expanding this license-exempt access up to 71 GHz is essential for the expansion of various future technologies for Bahrain.</p> <p>6. Apple would like to encourage TRA to consider adopting the ATU-R Recommendation 005-0 to open up lower 6 GHz (5925 - 6425 MHz) as soon as possible for WiFi 6E under license exempt conditions.</p>	<p>4. Will be considered during the implementation of the roadmap and the license-exemption part of the Schedule of Fees review.</p> <p>5. Will be considered during the implementation of the roadmap and the license-exemption part of the Schedule of Fees review.</p> <p>6. Will be considered during the implementation of the roadmap.</p> <p>7. This note will be considered during the implementation of the roadmap.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>12 New Technologies spectrum needs plan</b>		
<b>APPLE</b>	<p>7. Apple supports making whole 6 GHz band available for Low Power Indoor (LPI) Wireless Access Systems / Radio Local Area Networks (WAS/RLAN) and Very Low Power portable indoor/outdoor WAS/RLAN including narrow-band Frequency-Hopping Spread Spectrum (FHSS) on a licence-exempt basis.</p> <p>8. Apple suggests that TRA should strive for a harmonised approach maximising economies of scale through making the whole 6 GHz band available for licence-exempt Wireless Access Systems / Radio Local Area Networks (WAS/RLAN) including Frequency-Hopping Spread Spectrum (FHSS).</p>	
<b>WI-FI ALLIANCE</b>	<p>1. Expanding license-exempt (i.e., Wi-Fi) access to the 5925-7125 MHz band.</p> <p>2. Consideration of the 57-71 GHz frequency band for license-exempt (i.e., Wi-Fi) use.</p>	<p>All the possible solutions to provide the required spectrum for the new technologies are under consideration to provide the best available solutions and make the balance between the licensed and unlicensed bands, which will be expanded soon.</p>
<b>QUALCOMM</b>	<p>1. Qualcomm believes that detailed spectrum roadmap will create an enabling environment for 5G.</p>	<p>1. The Authority agrees with this statement.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>12 New Technologies spectrum needs plan</b>		
<b>QUALCOMM</b>	<p>2. Qualcomm believes that the spectrum policy framework should be based on technology neutrality through standards competition, application neutrality and implementation of harmonized technical spectrum usage rights and band plans. The application of these principles will enable innovation, competition, and the successful commercial development of wireless technologies in the Kingdom of Bahrain.</p> <p>3. Qualcomm recommends adopting the harmonized spectrum band plans for all bands, which will not only enable the wide availability of terminals and equipment but also provide benefits in terms of pricing and roaming.</p> <p>4. The TDD approach (G3) being considered by ASMG may be a crucial step in the next phase of the band's development. The consideration of this band as an option for the wider region will create a harmonised TDD ecosystem for the band.</p>	<p>2. The Authority works based on these principles.</p> <p>3. Will be considered during the implementation of the roadmap.</p> <p>4. The Authority agrees with this statement.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>12 New Technologies spectrum needs plan</b>		
<p><b>APPLE INC., BROADCOM INC., CISCO SYSTEMS INC., META PLATFORMS, INC., HEWLETT PACKARD ENTERPRISE, INTEL CORP., MICROSOFT CORP.</b></p>	<p>The above stated co-signatories believe that the below should be added to the scope/expected outcome of this project: Spectrum (FHSS) on a licence-exempt basis.</p> <ol style="list-style-type: none"> <li>1. Initiate proceedings and a consultation for the authorization of the 6 GHz Band (5925-7125MHz) for license-exempt operation.</li> <li>2. To authorize operation of Wi-Fi Low Power Indoor (LPI), Very Low Power (VLP), and Standard Power (SP) in the 6 GHz band.</li> <li>3. Timeline is suggested to be moved ahead to be completed by Q3-Q4 2022.</li> </ol>	<ol style="list-style-type: none"> <li>2. This note will be considered during the implementation of the roadmap.</li> <li>3. The comments will be considered to figure out the possibility along with the debates undergoing at the international level.</li> </ol>
<b>13 Publication and implementation of Telecom Emergency Response Plan</b>		
<p><b>BNET</b></p>	<ol style="list-style-type: none"> <li>1. BNET advises the Authority to consider whether it should publish such a plan, especially in consideration of availability and reporting obligations on licensed operators (particularly BNET and MNOs), and in ensuring the regulator remains uninvolved in day-to-day operations of licensees.</li> </ol>	<p>The objective of the Plan is to ensure that the sector is robust against the rising cyber and physical threats. It lays the plan for a sector wide response to a telecom emergency by defining the roles and responsibilities of all stakeholders. The TERP is a guideline to the sector to establish proactive measures during such circumstances.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>13 Publication and implementation of Telecom Emergency Response Plan</b>		
<b>STC</b>	<p>1. STC sees that existing Critical Telecommunications Infrastructure Regulation is sufficient to ensure the availability of critical telecommunications services / infrastructure to address emergency situations, noting that licensees have already developed their related BCP and DR plans.</p> <p>2. As such, STC requests the TRA to dismiss this initiative.</p>	<p>The objective of the Plan is to ensure that the sector is robust against the rising cyber and physical threats. It lays the plan for a sector wide response to a telecom emergency by defining the roles and responsibilities of all stakeholders. The TERP is a guideline to the sector to establish proactive measures during such circumstances.</p>
<b>14 Telecom Security drill exercise</b>		
<b>BNET</b>	<p>1. BNET understands that the Authority will prepare and conduct security drills in collaboration with relevant stakeholders.</p> <p>2. To maintain the Authority's independence, we recommend refraining from operational matters that could influence the outcome of the exercise.</p>	<p>Although the licensees are conducting internal cyber drills, it is also essential that such an exercise is conducted at a larger scale i.e., sector level, wherein all the participants from the sector undergo similar drill scenario, for example, breach and attack simulation. This will cater for the sector's readiness to manage a large-scale catastrophe leading to a telecom emergency and enhance sector's collaboration in responding to and recovering from such an emergency.</p>
<b>STC</b>	<p>In 2019, TRA issued a consultation on the "Telecom Emergency Response Plan" proposing, among other things, that licensees shall conduct certain drills. In its response [Ref. 0621-Corp-Reg-Gen-044 dated June 17th, 2021], STC disagreed with the idea of mandating the drills given that:</p>	<p>Although the licensees are conducting internal cyber drills, it is also essential that such an exercise is conducted at a larger scale i.e., sector level, wherein all the participants from the sector undergo similar drill scenario, for example, breach and attack simulation. This will cater for the sector's readiness to manage a large-scale catastrophe leading to a telecom emergency and enhance sector's collaboration in responding to and recovering from such an emergency.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>14 Telecom Security drill exercise</b>		
<b>STC</b>	<p>1. The performance of drills should remain an internal MNOs' arrangement [frequency - scope – timelines] which is meant to guarantee the availability of the Critical Telecommunications Infrastructure and guarantee the continuity of the LOs operations during emergencies. This can still be monitored by or reported to the Authority on a high-level frequent basis.</p> <p>2. Operators normally conduct annual drills on their networks, where the timeline of these drills and scope are planned in a manner that does not impact the implementation of ongoing projects.</p> <p>As such STC requests the Authority to dismiss this initiative.</p>	
<b>15 Implementation of Telecom Sector SIEM</b>		
<b>BNET</b>	<p>1. In principle, BNET agrees that attention should be focused on detection and response capabilities, but BNET is of the view that such should be achieved through setting rules and desired outcomes instead of resolving to deploy a specific technical solution.</p>	<p>Due to its significance as a CNI, the telecommunications sector plays an important role in supporting the kingdom's cyber defense capabilities.</p> <p>Therefore, in 2020, the Authority had carried out a study to review the options for deploying sector wide threat detection and response capabilities. The Authority believes that the recommendations arising out of the study were sufficient to implement such an initiative.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>15 Implementation of Telecom Sector SIEM</b>		
<b>BNET</b>	<p>2. BNET advises the Authority to rename this project and ensure that it undergoes sufficient research to examine the current state of the sector, determine the requirements of central cyber agencies, and recommend the appropriate framework (regardless of whether it is a SIEM platform, or otherwise) if such is needed.</p>	<p>However, the current deployment of SIEM is a national initiative carried out by the NCSC and the Authority is responsible to carry out tasks to ensure that the sector is connected to the national SIEM and thus support in achieving Bahrain's cyber defense objectives.</p>
<b>16 Publication of Public Network communications Security Strategy</b>		
<b>BNET</b>	<p>1. BNET advises the Authority to consider recommending to the appropriate authorities a national strategy instead of a sector strategy. Any future national strategy published may conflict with the Authority's strategy and licensees would be in a difficult position, possibly requiring repeat investments or modifications to cyber infrastructure.</p> <p>2. BNET further advises the Authority to consider merging all cyber initiatives under the sector or national strategy.</p>	<p>As part of NCSC's efforts for developing a national cyber security strategy, the Authority was well involved in providing recommendations to the NCSC for sections related to the telecommunication sector. As such, the Authority has aligned its goals &amp; objectives with the national strategy.</p> <p>In addition, the Authority is of the opinion that the sector strategy is important to have as it covers all aspects of telecommunications security including cyber and lays out a clear roadmap to achieve sector's security objectives and managing critical risks and threats.</p>
<b>STC</b>	<p>1. STC agrees with this initiative. However, the TRA should ensure such strategy doesn't enforce additional financial burden on licensees.</p>	<p>The sector's security strategy lays out a clear roadmap to achieve the sector's security objectives and manage critical risks and threats. In developing such a strategy, the Authority has been mindful of direct financial and/or technical impacts and has designed initiatives accordingly.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>17 Upgrade the Spectrum management and Monitoring Systems</b>		
<b>STC</b>	<p>Currently, the Authority's Spectrum Management System allows licensees to request P2P frequency while interferences management is conducted manually via email.</p> <p>1. STC suggests having a transparent monitoring system where stakeholders could closely monitor the actions taken by the Authority, the progress made, and the SLA achieved by the TRA in addressing interferences. This system should include the mechanism for identifying the root cause of the relevant filed interference, both locally and internationally.</p>	<p>This project will provide all the services related to the radio spectrum on the online platform, including interference complaints/investigation requests.</p>
<b>18 Enhancement of the Type approval regulation and process</b>		
<b>STC</b>	<p>1. In order to support MNOs to sunset 2G/3G technologies, STC requests the Authority to commence the prevention of importation of handsets that support only 2G/3G Technologies.</p> <p>2. Also, STC requests TRA to mandate that telecommunications equipment required for unlicensed bands are restricted to licensed operators.</p>	<p>1. This note will be considered during the regulation review.</p> <p>2. The national security requirements are taken into consideration by the Authority for all telecommunications equipment including the unlicensed bands that are imported by licensed dealers &amp; a type approval must be granted before importing the equipment to Bahrain.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>18 Enhancement of the Type approval regulation and process</b>		
<b>STC</b>	This will ensure that any telecommunications services are provided by licensees and do not bypass the national security requirements.	The equipment will be operated on the basis that it shall not cause harmful interference to licensed and planned services and not claim protection from such services. If the device caused interference with a licensed radio communication service, and even if that device complies with technical standards and licenses required by national regulations, the User must stop using it until a solution to the interference problem is found.
<b>ZAIN</b>	1. The scope of this review should be expanded to address the threat caused by importing unlicensed point-to-point microwave equipment. There are inherent risks associated with individuals and entities who are creating their own telecommunications networks in the Kingdom, bypassing the fixed infrastructure of BNET and the infrastructure of mobile operators and in doing so, blatantly bypassing the security requirements of the Kingdom, eroding value in the market and causing spectrum congestion, amongst other things.	<ol style="list-style-type: none"> <li>1. The Authority issues all importation approvals for the Wireless equipment for personal or commercial uses after a validation process confirming that their specifications match the relevant laws and regulations in coordination with Customs Affairs and all concerned entities in the Kingdom.</li> <li>2. The Authority takes necessary measures when authorizing the establishment of private networks for entities in assigning specific frequencies, including the required analyses to ensure efficient spectrum use.</li> <li>3. license-exempted devices used globally providing a low transmitting power and limited bandwidth &amp; on the shared spectrum, under a non-interference and non-protected basis.</li> <li>4. This note will be considered during the regulation review.</li> </ol>
<b>20 Update the Fixed Link Policy</b>		
<b>STC</b>	1. STC agrees with the Authority in proactively engaging with the industry with the aim of defining a clear plan related to the utilization of the mmWave for 5G and exploring any impact on the P2P or P2MP business.	All stakeholders will be consulted while reviewing the policy to cover all aspects.

Project	Summary of Comments received	The Authority's view and conclusion
<b>21 Schedule of Fees Update</b>		
<b>BNET</b>	<p>1. It is important for the industry that any change to the schedule of fees is effective only from the following fiscal year for licensees, as any change that applies immediately would be unbudgeted for by the industry.</p> <p>2. Furthermore, BNET notes that the Authority annually contributes in excess of BHD 9 million to the Ministry of Finance and National Economy, which suggests that the costs of regulation are much less than what the industry is currently paying on an annual basis. BNET requests the Authority to keep this in mind when reviewing the schedule of fees, particularly in consideration of whether it should continue to charge 1% of licensee revenues, and preferably to reduce this amount as it had done so in the Schedule of Fees effective from 2010 and up to 2017.</p> <p>3. BNET recommends that the fees and terms and conditions for the use of microwave spectrum be reviewed to ensure that it does not unreasonably disincentivize mobile operators from using fibre-based solutions.</p>	<p>1. Any changes issued in the update Schedule of Fees will not be issued in a retrospective manner. The Authority will allow for a grace period and also announce an effective date for the changes once published, similar to previous updates of the Schedule of Fees regulation (2010 and 2017)</p> <p>2. Duly noted.</p> <p>3. The Authority will consult the industry to any changes regarding calculation methodology for all spectrum charges.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>21 Schedule of Fees Update</b>		
<b>STC</b>	<p>In the context of the transfer of fibre assets to BNet, and due to the high financial burden incurred by MNOs to establish their backhauling connectivity, we believe the Authority should review the P2P frequency fees to compete with BNet's upcoming backhauling product. In particular, STC requests the Authority to:</p> <ol style="list-style-type: none"> <li>1. Reduce the frequency unit price and the calculation methodology for the P2P spectrum.</li> <li>2. Introduce a credit-note scheme in case of cancelling the spectrum license as was done in 2010 SoF.</li> <li>3. Waive PRS related charges for activities that do not require processing cost such as adding an antenna.</li> <li>4. Given that MNOs pay for spectrum, STC's expectation is that such spectrum should be provided without any interruptions, and thus any interference applications should not be chargeable.</li> </ol>	<p>Noted. The Authority will consult the industry to any changes regarding calculation methodology for all spectrum charges.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>22 Public Radio Stations “PRS” Regulation Enhancement</b>		
<b>STC</b>	<p>1. STC welcomes the introduction of this project and requests the Authority to simplify the overall licensing process and shorten the timelines to issue the PRS permits by reducing relevant SLAs with other government entities.</p>	<p>The Authority is coordinating with the concerned entities to simplify the process and to reduce the PRS permits issuance time.</p>
<b>ZAIN</b>	<p>1. This project is one of the main ‘pain points’ for the industry and has proved to be a significant obstacle towards bringing the Kingdom’s ranking higher on the global indices for quality of service and internet speeds. The intended review should not be limited to reducing the timelines of each stakeholder.</p> <p>2. Instead, the scope should cover all aspects of the regulation, including reviewing the required number of documents, the zoning restrictions, future technologies requirements, the subjectivity of approved structure designs, etc.</p> <p>3. Moreover, the intended review should address the challenges faced by mobile operators during (i) rectification of legacy PRSs and (ii) new PRS roll-out in new areas.</p>	<p>The Authority does not agree with Zain's statement that the project is a significant obstacle with respect to QoS, but the Authority agrees with Zain on the need to develop and improve the PRS process in general. The Authority started working on the PRS regulation enhancements and will coordinate with MNOs and relevant bodies to achieve this.</p> <p>In addition, the Authority started working with MoH to study the possible options to ensure the new PRS roll-out in new areas is done before these areas being inhabited.</p> <p>With respect to the PRS rectification challenges, the Authority will continue its effort to ease and smooth any difficulties the MNOs are facing.</p>

<b>Project</b>	<b>Summary of Comments received</b>	<b>The Authority's view and conclusion</b>
<b>23 Telecom Services comparator tool</b>		
<b>STC</b>	1. STC does not believe this initiative is required since consumers have access to all operators' web sites where commercial offers are clearly displayed.	The outcome of this tool will allow an increase in transparency to compare between offers and packages amid consumer and assist them in making informed decisions to select and compare.
<b>24 Strategic Working Group (SWG) to combat spam calls and messages</b>		
<b>STC</b>	1. STC welcomes the introduction of this project and seeks the TRA's support to expedite its initiation with the aim to find/agree on a viable solution to mitigate the issue caused by the spam calls and SMS.	Noted.

## RECURRING PROJECTS

<b>Project</b>	<b>Summary of Comments received</b>	<b>The Authority's view and conclusion</b>
<b>1 Market Indicator Reports</b>		
<b>STC</b>	1. STC welcomes the introduction of this project and requests the TRA to publish the market reports more frequently and to consult the industry on the list of market indicators.	Noted.

Project	Summary of Comments received	The Authority's view and conclusion
<b>1 Market Indicator Reports</b>		
<b>BATELCO</b>	<p>1. Batelco continues to adhere to its reporting obligations which facilitate the Authority's ability to publish reports such as the Market Indicator Report.</p> <p>2. Batelco would request that the Authority ensures all operators are reporting with a unified understanding so as not to misrepresent any aspects of the telecommunications market.</p>	<p>In order to improve its monthly/annual market indicator reports, the Authority worked closely with MNOs to gather comments/feedback on market definitions and reporting methods all in favor of enhancing the way the Authority gathers/analyses market information to the best of its ability.</p> <p>The Authority has improved its monthly reporting template to reflect the latest ITU definitions.</p> <p>Also, as of 2022, the Authority has recently updated its annual reporting template to reflect recent market changes.</p> <p>The Authority is always keen to improve its data collection methods and ensures that licensees are included in the process.</p>
<b>4 Annual Consumer Experience Review</b>		
<b>STC</b>	<p>1. STC welcomes the introduction of this initiative and requests that the Authority consults with the industry on the measurements, KPIs and the sample selection criteria.</p>	<p>The Authority shall share the results of the current consumer experience review with the relevant operators for consideration and comments.</p>
<b>6 Monitoring Eol requirements</b>		
<b>BNET</b>	<p>1. BNET recommends a transition from Eol monitoring once all separation requirements are fulfilled towards price/quality monitoring.</p>	<p>In the context of market developments in recent years, in particular the recent separation of Batelco and the transition to service-based competition for the fixed broadband and domestic connectivity markets, the Authority considers the industry will be best served by monitoring Eol for a limited period of time. This will help reassure LOs and the market of the foundations for a level playing field. It is, however, the Authority's intention not to carry this task longer than what is needed.</p>

Project	Summary of Comments received	The Authority's view and conclusion
<b>6 Monitoring Eol requirements</b>		
<b>STC</b>	<p>1. Since the Authority has not published its report on BNet's compliance with the Eol obligations, STC urges the Authority to publish the Eol report as per the NTP5 requirement. This will ensure that BNet offers its services to access seekers without discrimination.</p>	<p>The Authority is currently reviewing the state of Eol, which will feed into various works it is undertaking, in particular the review of the retail broadband and data connectivity markets. Through these works, the Authority will provide an update on Eol and, if appropriate, the steps it is undertaking to achieve it.</p>
<b>7 Publication of QoS Measurements Findings</b>		
<b>BNET</b>	<p>1. BNET recommends that the QoS Measurement Findings are geared towards the objective of "Enhance Bahrain's ranking in the global indices." In line with this, BNET recommends a fast track of the new RO.</p>	<p>This is currently being considered and plans are set for the same. Bahrain's ranking in the global telecom indices is of importance to the Authority.</p>
<b>STC</b>	<p>1. STC welcomes the introduction of this initiative and requests the TRA to consider revisiting its QoS tools with the aim to review applied methodology [including the crowdsourcing] and the automatic collection process to ensure the reflection of the actual networks' performance.</p>	<p>TRA is consistently in the process of enhancing the QoS measurement tools and procedures. Furthermore, the authority has already established open discussions with the operators to collect their reviews with the aim of considering the areas of potential enhancements.</p>

## LICENSEES' PROPOSED PROJECTS

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>BATELCO</b>		
<b>1. Review of the Telecom Law</b>	<p>In light of the fundamental restructuring of the Kingdom's telecommunications sector, on foot of NTP4, it would be timely to review the Telecommunications Law and amend it where appropriate.</p>	<p>The Authority shares Batelco's concerns however, it believes that making the requisite changes within this 12-month work programme would be unrealistic.</p>
<b>STC</b>		
<b>1. Review of the SIM Registration Regulation</b>	<p>Reviewing the SIM Cards enabled services regulation considering the rapid evolution of the KYC technologies which have accelerated the adoption of new verification electronic processes, namely the face recognition<sup>1</sup> as a trusted biometric solution, which is designed for the purpose to verify the identity of applicants without the need of their physical presence; and allowing operators sharing KYC information across multiple platforms.</p>	<p>The Authority is currently reviewing alternate measures for electronic registration and verification processes and is liaising with other national stakeholders to agree on implementing such options.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>STC</b>		
<p><b>2. Review of other Regulations</b></p>	<p>Reviewing inapplicable or unfitting obligations related to roaming, Consumer Protection Regulation, SIM Regulation, Bulk Messaging Regulation, Code of Practice and Quality of Services Regulation.</p> <p>In particular, STC requests the Authority to consider dismissing the following obligations which impose unnecessary operational and financial burdens on licensees:</p> <ul style="list-style-type: none"> <li>- Roaming Regulation</li> <li>- Consumer Protection Regulation</li> <li>- SIM Registration Regulation</li> <li>- Bulk Messaging Regulation</li> <li>- TRA Code of Practice</li> <li>- Quality of Services Regulation</li> </ul>	<p>SIM card regulation: obligation related to prepaid revalidation - reference to its letter dated 1st June 2022, the Authority has indefinitely suspended the obligation of prepaid SIM-Card revalidation (Article 10.5 of the SIM-Card Registration Regulation). A further review is required to determine whether this obligation will be permanently removed from the regulation.</p>
<p><b>3. Review of the Dispute Resolution Guidelines</b></p>	<p>Reviewing the applicable regulatory instruments related to the disputes resolution process where licensed operators are experiencing unreasonable significant delays in the resolution of their disputes and complaints.</p>	<p>The Authority does not agree with STC that a review is necessary nor that the time frame for resolving disputes is a concern. Further replacing guidelines with a regulation so that the latter is binding on the TRA is a novel, interesting approach which however does not seem to be borne out by precedent.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>STC</b>		
<b>3. Review of the Dispute Resolution Guidelines</b>	<p>STC proposes a regulation in replacement of the guideline which stipulates clear timelines on the Authority, disputing party, and responding party as to the initial submissions as well as the final adjudication of the matter.</p>	
<b>4. Telecommunications Credit Bureau</b>	<p>STC strongly recommends the implementation of a bad debt information sharing system among licensed operators to address the bad debt burden borne by the industry that has, and continues to, significantly impact financials as well as customer experience.</p>	<p>The Authority took note of the submissions received from the RIAs and reached out to MNOs to discuss the functionality of the IMEI portal, process and KPIs.</p>
<b>5. Guidelines on In-Building Telecommunications Access Facilities</b>	<p>STC requests the Authority to review and convert into a regulation the In-Building Telecommunications Access Facilities Guidelines in order to ensure that developers provide and install the required telecommunications infrastructure in their real estate projects particularly in multi-story buildings similarly to other utilities infrastructure in line with other jurisdictions.</p>	<p>Noted. As a first step, the Authority did include the In-Building Telecommunications Access Facilities Guidelines into the unified Municipal guidelines for the developers to follow and the Authority will look into the feasibility of imposing this either through the appropriate legal tool in coordination with the Municipalities.</p>
<b>6. Review of the Telecommunications Law</b>	<p>STC encourages the review of the following articles of law:</p>	<p>The Authority shares STC's concerns however, it believes that making the requisite changes within this 12-month work programme would be unrealistic.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>STC</b>		
<p><b>6. Review of the Telecommunications Law</b></p>	<ul style="list-style-type: none"> <li>- reviewing chapter 16 of the Law (in coordination with the Ministry of Justice and Islamic Affairs) and establishing a separate channel or mechanism for appeal against the Authority's decisions and regulations, in addition to the existing arbitration procedure, in order to expedite the appeal process at minimal cost;</li> <li>- Reviewing Article 57 and 58 of the Law in relation to interconnection and access; and</li> <li>- Reviewing Article 64 in relation to the Universal Service Obligations framework.</li> </ul>	
<p><b>7. Position Paper on How TRA Consults</b></p>	<p>Review of the position paper on how the TRA consult the industry. We have noticed that several strategic draft regulations, determinations and markets review are delayed which has a significant impact on the industry.</p> <p>In order to expedite the process of how the TRA consults the industry we propose to review and convert the position paper into a regulation which stipulates clear timelines on the Authority and responding parties.</p>	<p>Noted.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>STC</b>		
<p><b>8. New Telecommunications Economic Regulatory Framework (“NERF”)</b></p>	<p>This was published in April 2018 and sets the tone and expectations surrounding the implementation of the Fourth National Telecommunications Plan. Given its encompassing nature and the release of the Fifth National Telecommunications Plan (“NTP5”), as well as how it will drive any further developments of the regulatory pricing framework of BNET B.S.C.</p> <p>STC proposes either the preparation and release of a new report to replace the NERF, or a thorough review of the current NERF in line with NTP5 and recent advancements in the industry post-separation.</p>	<p>Noted.</p>
<b>ZAIN</b>		
<p><b>1. Digital Onboarding</b></p>	<p>The gap between the financial and telecom sectors is widening when it comes to using innovative and digitalised operations. In particular, in relation to new subscribers' onboarding, the traditional in-person validation using biometric verification was replaced with an Electronic Know Your Customer (“eKYC”) procedure.</p>	<p>The Authority is currently reviewing alternate measures for electronic registration and verification processes and is liaising with other national stakeholders to agree on implementing such options.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>ZAIN</b>		
<p><b>1. Digital Onboarding</b></p>	<p>Zain has highlighted to the Authority that a holistic review of the current SIM Card Enabled Services Registration Regulation is required to cater for a full eKYC approach.</p> <p>The review should take into account the current technological advancement, the inevitable movement toward a digital realm of market interaction beyond the traditional means and the current best practices domestically and internationally.</p>	
<p><b>2. Appealing /Objecting against decisions and orders</b></p>	<p>While the appeal process is clarified further under Chapter Sixteen as an arbitration process, the objection process however is not detailed anywhere in the Law or other Legal Instruments issued by the Authority.</p> <p>Zain requests the Authority to issue a position paper or guidelines explaining and detailing the level and manner of escalation and disputes against the Authority's decisions, whether they are telecom related or under the civil code.</p>	<p>Noted.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>ZAIN</b>		
<p><b>3. Private infrastructure developers</b></p>	<p>Zain urges the introduction of regulation or other forms of mandates to factor in provisions of in-building telecommunication service in the engineering drawings for any private buildings that are higher than five stories.</p> <p>In addition, building landlords should bear the cost of preparing the infrastructure for mobile operators and BNET to provide telecommunication services.</p>	<p>Noted.</p> <p>As a first step, the Authority did include the In-Building Telecommunications Access Facilities Guidelines into the unified Municipal guidelines for the developers to follow and the Authority will look into the feasibility of imposing this through the appropriate legal tool in coordination with the Municipalities.</p>
<p><b>4. Telecom Credit Bureau</b></p>	<p>The MNOs continue to suffer significantly from bad debts, defaulters and fraudulent subscribers. The financial impact in terms of provision and write-offs to MNOs is huge and affects our efforts in providing service plans and devices to consumers at large at affordable prices.</p> <p>We are still awaiting the formation and operation of the Telecom Credit Bureau promised by the Authority in early 2020.</p>	<p>The Authority took note of the submissions received from the RIAs and reached out to MNOs to discuss the functionality of the IMEI portal, process, and KPIs.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>WI-FI ALLIANCE</b>		
<p><b>1. Expanding license-exempt (i.e., Wi-Fi) access to the 5925-7125 MHz band</b></p>	<p>The 5925-6425 MHz band (500 MHz) does not provide sufficient spectrum to support future Wi-Fi connectivity and there are no alternative frequency bands that may address expanding Wi-Fi spectrum requirements in the future</p> <p>The next generation of Wi-Fi (Wi-Fi 7) will be designed to support VR/AR/XR, Industrial IoT, automotive, telepresence, immersive 3-D and other applications that require higher data rates, stringent latency, reliability and QoS.</p> <p>Wi-Fi 7 optimal performance will depend on access to multiple wider (e.g., 320 MHz) channels – without spectrum access, consumers will not realize full benefits of Wi-Fi 7 and future generations of Wi-Fi technologies.</p>	<p>All the practical solutions to provide the required spectrum for modern technologies are under consideration to provide the best available solutions &amp; make the balance between the licensed and unlicensed bands.</p>
<p><b>2. Consideration of the 57-71 GHz frequency band for license-exempt (i.e., Wi-Fi) use</b></p>	<p>The MGWS, such as WiGig, offer low-latency connectivity that expands the Wi-Fi experience for virtual reality, multimedia streaming, gaming, wireless docking, and enterprise applications requiring high speed, data-intensive connections.</p>	<p>All viable solutions are under consideration to provide a better experience for the end-users.</p>

Proposed Project	Proposed scope/reasoning	The Authority's view
<b>WI-FI ALLIANCE</b>		
<p><b>2.Consideration of the 57-71 GHz frequency band for license-exempt (i.e., Wi-Fi) use</b></p>	<p>These systems need access to the uncongested 60 GHz frequency band with wide channels to transmit data efficiently at multi-gigabit per second speeds. Users benefit from expanded capacity and focused transmission between devices to reduce interference, even in crowded environments.</p> <p>In the 66-71 GHz band, while 5G products are yet to be introduced, multiple WiGig products are available on the market.</p>	



## Annex 2

### Final TRA Work Plan 2022-2023

No.	Nonrecurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	<b>Review of the Licensing Framework of the Telecommunications Sector</b>	Review of the existing licensing framework, analysis of the current licenses and their continued relevance, and proposal of a new licensing system with terms and conditions that are suitable to meet the needs of the telecommunications industry in Bahrain.	To develop a new licensing framework that incorporates the changes in the terms and conditions of the same and the continued relevance of a number of class/individual licences.	●	●	●	●	○	○	○	○
2	<b>Review of Consumer Protection Regime</b>	Review of the current regime to ensure transparency of information and effective mechanism to strike the right balance between the interest of service providers and users.	To take necessary action to further promote trust in the use of telecommunication services.	●	●	●	○	○	○	○	○
3	<b>New Universal Service Regulation Framework</b>	What users need to actively participate in society are changing. We need to ensure that the universal services framework is appropriate and has the right balance between the interests of users and service providers.	Following our review to propose any necessary changes to the universal services framework.	●	●	●	○	○	○	○	○
4	<b>Support for Innovation</b>	To launch and operate a environment for people looking to test and trial new technologies that can help develop telecommunication services.	To introduce a testing and trialing licence to facilitate innovation and development of telecommunication services that adopt emerging concepts and technologies.	●	●	○	○	○	○	○	○

No.	Nonrecurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5	<b>Review of the Number Portability Regulation (NPR)</b>	Modifications to the NPR to address issues with the current broadband transfer process.	Review of the regulation to address broadband transfer process.	○	●	●	●	○	○	○	○
6	<b>BNET Governance Independence</b>	Ensuring BNET's independence from Batelco and safeguarding non-discrimination.	We will undertake a review and consult to determine if changes are needed in BNET's governance arrangements to safeguard non-discrimination between all market players.	○	●	●	●	○	○	○	○
7	<b>BNET RO review</b>	To review the revised RO submitted by BNET.	To ensure that the wholesale access services are provided under fair, reasonable and non-discriminatory basis.	●	●	●	○	○	○	○	○
8	<b>Market Review: Retail Broadband and Domestic Data Connectivity</b>	To define the relevant retail market(s) for broadband and domestic connectivity and to determine whether any licensed operator holding Significant Market Power ("SMP") in a relevant wholesale market.	To ensure that the final determination and scope of regulatory framework at retail level adequately addresses competitive developments in the telecommunications market.	●	●	○	○	○	○	○	○
9	<b>C-band Spectrum Award</b>	Awarding permanent Frequency Licenses to MNOs in the (3400-3700 MHz) band.	Permanent Frequency Licenses to MNOs in the (3400-3700 MHz) band for 15 years with renewal possibility.	●	●	○	○	○	○	○	○
10	<b>IoT Position Paper</b>	Position Paper on the Internet of Things.	TRA's position on a number of subject matters that affect the provision of telecommunications services to enable IoT.	○	●	●	○	○	○	○	○

No.	Nonrecurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
11	<b>New technologies spectrum needs plan</b>	This project aims to develop a roadmap that meets the requirements for all spectrum stakeholders in Bahrain in coordination with the SSCC including supporting GCC/ASMG harmonization of 1427-1518 MHz for Mobile TDD use.	<ul style="list-style-type: none"> <li>• A detailed roadmap with clear action points to enable stakeholders to access the spectrum they need</li> <li>• To assist in driving the development of an eco-system for Mobile TDD in 1427 -1518 MHz</li> <li>•Expanding license-exempt (i.e., Wi-Fi)</li> </ul>	●	●	●	●	●	●	●	●
12	<b>Publication and implementation of Telecom Emergency Response Plan</b>	Lay the foundation for the sector to be able to collaborate and coordinate sector's response to telecom emergency.	Availability and operability of critical telecommunication services during disasters/emergenc.	●	●	○	○	○	○	○	○
13	<b>Telecom Security drill exercise</b>	Prepare the sector and conduct drills in collaboration with operators and relevant security entity based on the Telecom Emergency Response Plan.	Sector is continuously tested and is prepared to handle telecom emergency.	○	●	●	●	●	○	○	○
14	<b>Implementation of Telecom sector SIEM</b>	Working with the concerned governmental entities to determine and implement actions to support information sharing relating to cyber threats affecting the sector.	Sector capability to detect and respond to security incidents and events.	●	●	●	○	○	○	○	○
15	<b>Publication of Sector's Cyber Security Strategy</b>	Publication of the telecommunications security strategy (2022-2025) and drive the implementation of various initiatives arising out of the strategy.	Align the sector with international best practices and adoption of measures to ensure a secured and resilient telecommunications environment that enables a trusted digital ecosystem.	●	●	●	●	●	○	○	○

No.	Nonrecurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
16	<b>Upgrade the Spectrum management and Monitoring Systems</b>	Upgrade TRA's systems to provide effective spectrum monitoring and management. This system should also provide additional online services and assist in enforcement and identifying sources of interference.	Enhancing the TRA Radio Spectrum management & Monitoring capabilities & efficiency.	●	●	●	●	●	○	○	○
17	<b>Enhancement of the Type approval regulation and process</b>	Update the current regulations to stimulate the growth and development of a market in Bahrain for the supply of telecommunications equipment that is streamlined and clear, with the support of all relevant stakeholders.	<ul style="list-style-type: none"> <li>• Robust market for supply of telecommunications equipment.</li> <li>• Support the development of competition and associated benefits for consumers.</li> <li>• Streamline the current importation processes (customs clearance).</li> </ul>	●	●	●	●	○	○	○	○
18	<b>Issue Maritime services Regulations</b>	The regulation will cover all maritime services & reflect the international maritime Regulations and the WRCs outcome.	<ul style="list-style-type: none"> <li>• Clear procedure in terms of applying for maritime services.</li> <li>• Specify the marine channels to be used in accordance with the ITU appendix 15, 17 &amp; 18.</li> </ul>	●	●	●	●	○	○	○	○
19	<b>Update the Fixed Link Policy</b>	The modification and enhancement of the current fixed links policy to overcome technical and administrative shortfalls and ensure the Authority's policies and systems facilitate the adoption of the latest technologies in line with WRC and regional harmonisation.	<ul style="list-style-type: none"> <li>• To systematically process and manage operators' fixed links.</li> <li>• To clarify the TRA's position on the utilization of frequency bands that have been identified as candidate bands for 5G and how it intends to handle current use of the bands.</li> </ul>	○	○	●	●	●	●	●	●

No.	Nonrecurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
20	<b>Schedule of Fees Update</b>	To amend the current schedule of fees in light of recent technological evolution to further push the Kingdom to become the region's most modern telecoms hub and further grow the telecoms market.	To update the calculation methodology for spectrum utilization fees for different Satellite based services/systems as well as introduce new testing & innovation licences, and Aircraft licences	●	●	●	○	○	○	○	○
21	<b>Public Radio Stations "PRS" Regulation Enhancement</b>	Improving the procedures for obtaining approvals for the deployment, development and maintenance of telecom tower sites.	<ul style="list-style-type: none"> <li>Review the permitting and rectification processes with an aim to speed up and simplify them</li> <li>Identify a definition and processes for tower companies</li> </ul>	●	●	●	●	○	○	○	○
22	<b>Telecom services comparator tool</b>	Develop and offer a tool/website to assist consumers to explore & compare telecommunication services.	Empower consumer with enablers to make informed decisions and increase knowledge of telecommunication services and products in the sector.	●	●	●	○	○	○	○	○
23	<b>Strategic Working Group (SWG) to combat spam calls &amp; messages</b>	Establish SWG to identify metrics, report data and propose solutions on spam communication on telecommunication services.	To work on collective mechanisms to reduce the impact of spam calls and text messages.	○	○	●	●	●	●	●	●
24	<b>Cyber Safety Program</b>	This initiative aims to advocate on the national efforts against cyber threats amid the students of the Kingdom of Bahrain in building digital skills resilience.	To collaborate with schools and educational institutions to liaise with local & international entities to ensure outreach of fundamental cyber safety and the responsible use of ICTs.	○	○	●	●	●	○	○	○

No.	Nonrecurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
25	<b>Review of the SIM Registration Regulation</b>	Review and assess the needs to enhance the current regulation including the processes to make sure that it meets the government's stakeholders needs and to simplify the registration process as much as possible.	In case the needs are there to develop an enhanced version, a modified regulation meeting all stakeholders' needs will be consulted on and published.	○	○	○	○	●	●	●	○

No.	Recurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	<b>Market Indicator Reports</b>	Annual and quarterly reports that cover a wide range of telecommunications indicators and statistics.	<ul style="list-style-type: none"> <li>To monitor the sector and analyse the impact of regulatory actions.</li> <li>To provide timely information to operators &amp; other stakeholders.</li> </ul>	●	●	●	●	●	●	●	●
2	<b>Annual Arab Price Benchmarking Report</b>	Benchmarking of telecommunications services prices amongst Arab countries and with OECD countries.	<ul style="list-style-type: none"> <li>To facilitate tracking the telecommunications' sector performance overtime and relative to other countries.</li> <li>To provide timely information to operators and other stakeholders.</li> </ul>	●	●	○	○	●	●	○	○
3	<b>Annual Consumer Surveys</b>	Surveys on digital services access and usage for residential and business consumers.	<ul style="list-style-type: none"> <li>To enable better understanding of digital services access and usage.</li> <li>To enable monitoring of the sector and analysis of impact of regulatory actions.</li> <li>To provide timely information to operators and other stakeholders (including ITU/UN requests for information).</li> </ul>	○	○	○	●	●	●	○	○

No.	Recurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4	<b>Annual Consumer Experience Review</b>	Research on consumers' awareness of TRA and satisfaction level with telecommunication service providers.	<ul style="list-style-type: none"> <li>To measure consumer satisfaction trends across multiple components and markets in addition to gauge the awareness level of TRA.</li> <li>Publication of consumer experience findings.</li> </ul>	●	●	●	●	○	○	○	○
5	<b>Compliance Program</b>	On-going mystery shopping of licensed operators' various work streams in relation to subscribers' rights and obligations.	<ul style="list-style-type: none"> <li>To identify compliant and non-compliant licensees, follow up and encourage self-regulatory compliance.</li> <li>Enhancements to the Service Provider Portal 2.0 user experience and reporting.</li> </ul>	○	●	●	●	○	○	○	○
6	<b>Monitoring EoI requirements</b>	Monitoring BNET's Equivalence of Input ("EoI") obligations.	<ul style="list-style-type: none"> <li>Ensuring all LOs have access to the same BNET products, on terms that are not unduly discriminatory, so they can compete on equal footing.</li> <li>Ensuring that Batelco and BNET's IT systems are separate, in line with the Separation guidelines.</li> </ul>	●	●	●	●	○	○	○	○
7	<b>Publication of QoS Measurements Findings</b>	Continue to undertake reviews of quality of services provided by all networks in the Kingdom. Through both technical measurements and the use of crowdsourcing techniques.	<ul style="list-style-type: none"> <li>Empowering consumers to take informative decisions.</li> <li>Foster Competition.</li> <li>Enhance Bahrain's ranking in the global indices.</li> </ul>	●	●	●	●	●	●	●	●

No.	Recurring Projects	Description	Expected outcomes	2022				2023			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
8	<b>Familiarisation of radiocommunications services</b>	Provide workshops to the stakeholders to introduce the available electronic services and the way of using them.	<ul style="list-style-type: none"> <li>Facilitate the procedures for submitting applications, online payment and follow-up the status of the applications for the clients.</li> <li>Ease of understanding by the clients.</li> </ul>	●	●	●	●	○	●	○	●
9	<b>Awareness Campaigns</b>	Year-long campaigns dedicated to consumer empowerment.	<ul style="list-style-type: none"> <li>Raising awareness amongst consumers on the overall consumer choice in the Telecommunication industry.</li> <li>Enlighten the public with the Domain Name cycle and, and further promote the registering phases to encourage engagement.</li> <li>Promote the use of roaming services / roaming rights for subscribers in the Kingdom of Bahrain.</li> </ul>	●	●	●	●	●	●	●	●