

TRA'S WORK PLAN



W W W . T R A . O R G . B H

2024- 2025

Executive Summary

The Telecommunication Regulatory Authority (TRA) of Bahrain is proud to announce the launch of the 2024-2025 Work Plan, a visionary roadmap designed to propel the Kingdom into a new era of digital connectivity and innovation. The Work Plan builds on the successes of previous plans, aiming to further enhance Bahrain's telecommunications infrastructure and services.

Key objectives include expanding high-speed broadband access, fostering a competitive market environment, and promoting the adoption of advanced technologies such as 5G and the Internet of Things (IoT). The plan emphasizes the importance of digital inclusivity, ensuring that all citizens and businesses have access to reliable and affordable telecommunications services. Additionally, the Work Plan focuses on strengthening cybersecurity measures to protect the nation's digital assets and enhancing regulatory frameworks to support sustainable industry growth.

The TRA is committed to driving Bahrain's digital transformation, fostering economic development, and improving quality of life for all residents through robust and innovative telecommunications solutions.

Work Plan

To realize the goals outlined in the Work Plan, the TRA has undertaken a comprehensive set of initiatives. Key projects include the "Qaren Enhancements and Additional Features" initiative, which expands the tool's functionality and accessibility, including the development of a mobile app. In addition, the TRA is committed to combating digital fraud through the work of the Strategic Working Group (SWG), in collaboration with industry stakeholders and social media agencies. The TRA is also dedicated to promoting inclusivity by conducting a thorough review of the telecommunications sector to understand the needs of consumers with special requirements. This is complemented by the development of a national online safety strategy, supported by an online safety assessment in Bahrain. Further investments include advanced spectrum monitoring systems and preparations for a spectrum auction to support future broadband and mobile connectivity demands. Other significant projects include encouraging industry digitization, identifying and facilitating the adoption of emerging technologies, and issuing the 2024 National Frequency Plan. Through these, the TRA aims to foster a conducive environment for satellite services, review data center regulations, and transfer BIX assets to the

private market. A new AI regulatory framework is also being established to position Bahrain as a leader in AI adoption.

Additional initiatives include revising the telecommunications law and licensing framework, enhancing ID verification for SIM card registration, strengthening cybersecurity measures, and hosting an AI event. The TRA is also focused on improving in-building connectivity, reviewing GCC roaming regulations, and assessing consumer surpluses in telecommunications services. Through these efforts, the TRA is committed to enhancing Bahrain's telecommunications landscape, ensuring competitiveness, and protecting consumer interests.

These coordinated efforts reflect the TRA's unwavering commitment to driving Bahrain's digital transformation, fostering economic development, and improving quality of life for all through robust and innovative telecommunications solutions.

ANNEX 1

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

Project	Summary of Comments received	The Authority's view and conclusion
1. Qaren Enhancements and Additional Features		
Improving and expanding the tool with a focus on adding additional features. Developing a Mobile app to enhance accessibility and convenience, allowing users to access the tool on their mobile device at any given time.		
BNET	BNET supports the proposed initiative by the Authority. An easy to navigate tool that aggregates all the relevant information about retail offers for fixed and mobile telecommunications services provides for a considerable improvement to customers choice and competition on the market. The value of such a tool will depend on the quality and comprehensiveness of the data including its regular updates. In terms of inclusivity and comprehensive character, the tool should include the tariffs of all relevant licensed operators or at least the larger ones to present a fair picture of the market. BNET would like to highlight that for example, for fixed broadband services, the current tool seems to still refer to the old BNET Refence Offer's below 100 Mbps bandwidth options (i.e., 50 Mbps).	We greatly appreciate BNET's support for the Authority initiative. Ensuring an easy to navigate tool with comprehensive and regularly updated data is indeed crucial for enhancing customer choice and competition. The tool undergoes rigorous quality measures to ensure the accuracy of the data presented. Additionally, we would like to emphasize that Qaren captures tariff and service information directly from the LOs websites. Therefore, the tools accuracy is primarily based on the accuracy of the data provided on the LOs websites. accurate data on licensees' websites improves the tool's effectiveness, as the tool captures tariff and service information directly from the LOs website.
STC	While we are generally supportive of the Qaren initiative and in favor of its goals of empowering consumers and fostering transparency, we believe incorporating two key factors is crucial for its long-term success and fairness. Firstly, ensuring regular updates is essential. We recommend establishing a defined update frequency to reflect up-to-date offerings of products and services. This ensures the tool remains accurate and relevant, and that no operator is unjustly disadvantaged to any specific operator due to outdated information. Secondly, we stress that the tool is updated with accurate data. The tool and the team responsible for the	We appreciate STC's feedback and understand the importance of accuracy. our tool undergoes daily updates to ensure up-to-date- information, sourced directly from LOs' websites to prevent any misrepresentation. The Authority would like to assure STC that maintaining accuracy is paramount to us, and we are committed to address any concerns to uphold the reliability of the Qaren tool.

	<p>tool must be responsible for implementing a robust fact-checking and verification process, potentially involving independent audits, would guarantee the information presented is fair and impartial. This would foster trust and prevent any operator from being unfairly portrayed.</p>	
Zain	<p>We further believe developing a mobile application for Qaren and enhancing the website should not be part of the work plan for 2024 - 2025. Today, customers are able to readily access the existing Qaren website through their mobile internet browser. In addition, customers can effortlessly navigate Licensed Operators' websites to compare the various services and products available and make informed decisions. We do not believe that there is valid rationale to allocate the industry's already stretched and limited resources towards developing a mobile application for Qaren. The potential results achieved in terms of empowering customers through this initiative may be minimal. Instead, it would be more prudent to focus on enhancing the accuracy and usability of the existing Qaren website which will not require the same amount of investment or manpower required to develop a fully-fledged mobile application. The Authority is encouraged to redirect the resources required for these endeavors towards alternative projects, which we outlined in previous paragraphs that offer higher merits, benefiting the whole industry.</p>	<p>The Authority fully agrees with Zain's on the importance of investing resources that are beneficial to consumers and the industry as a whole. However, the decision to develop a mobile app for Qaren is based on numerous surveys that showed consumers clearly preferred apps to websites due to the convenience and easy accessibility, especially when they need to use the tool on the go. Additionally, the cost of developing the application is low, no additional cost of hosting, visual design, or management services is due as it is already being paid for the original website, the application will only reflect what is found on the website. In terms of usability, we continuously update the tool to be more user-friendly and we recently introduced new features like roaming add-ons, smartphones, and value-added services comparisons.</p>

2. Combatting Digital Fraud

Continuation of our commitment to combat fraud and scams in alignment with the Strategic Working Group (SWG) established last year. This initiative builds upon the foundation laid by the SWG, fostering collaboration with industry stakeholders to exchange information and implement best practices for fraud prevention. Social Media Roundtable is another initiative to foster collaboration with the social media agencies to adapt their security features, aligning with our cultural values.

Batelco	<p>The Authority has stated its commitment to combat fraud and scams in alignment with the Strategic Working Group ("SWG") in which Batelco is an active participant whose goals are in line with that of the Authority. It is noted that the Authority seeks to collaborate with the industry and implement best practices for fraud protection throughout 2024 and Batelco supports this approach. However, it is our view that the</p>	<p>The Authority appreciates Batelco's support for our commitment to combat fraud and scams. Batelco's active participation in the SWG is highly valued, and we share the goal of enhancing fraud protection in the industry. We understand Batelco's concerns about the effectiveness of the SWG and</p>
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	<p>effectiveness of the SWG is dependent on the Authority's prioritization of the industry effort to combat fraud. For an effective SWG, we suggest that channels of communication are clearer, proposed projects are adequately assessed and seen through, and relevant operator initiatives are supported by the Authority.</p>	<p>agree that clear communication channels and support for operator initiatives are crucial. The Authority is committed to ensuring that proposed projects are thoroughly assessed and supported.</p>
BNET	<p>BNET welcomes this initiative by the Authority that aims at protecting customers and fostering trust in the communications services. There are various models and technologies (including the ones deployed in the GCC region) to filter spam of phishing calls and SMS that the Authority and the industry can rely on.</p>	<p>The Authority will certainly take Bnet's input into consideration as we work towards enhancing consumer protection. Thank you for your valuable contribution.</p>
STC	<p>While we are generally supportive of the Qaren initiative and in favor of its goals of empowering consumers and fostering transparency, we believe incorporating two key factors is crucial for its long-term success and fairness. Firstly, ensuring regular updates is essential. We recommend establishing a defined update frequency to reflect up-to-date offerings of products and services. This ensures the tool remains accurate and relevant, and that no operator is unjustly disadvantaged to any specific operator due to outdated information. Secondly, we stress that the tool is updated with accurate data. The tool and the team responsible for the tool must be responsible for implementing a robust fact-checking and verification process, potentially involving independent audits, would guarantee the information presented is fair and impartial. This would foster trust and prevent any operator from being unfairly portrayed.</p>	<p>We appreciate STC's feedback and understand the importance of accuracy. our tool undergoes daily updates to ensure up-to-date- information, sourced directly from LOs' websites to prevent any misrepresentation. The Authority would like to assure STC that maintaining accuracy is paramount to us, and we are committed to address any concerns to uphold the reliability of the Qaren tool.</p>
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	<p>Instead, it would be more prudent to focus on enhancing the accuracy and usability of the existing Qaren website which will not require the same amount of investment or manpower required to develop a fully-fledged mobile application. The Authority is encouraged to redirect the resources required for these endeavors towards alternative projects, which we outlined in previous paragraphs that offer higher merits, benefiting the whole industry.</p>	<p>visual design, or management services is due as it is already being paid for the original website, the application will only reflect what is found on the website. In terms of useability, we continuously update the tool to be more user-friendly and we recently introduced new features like roaming add-ons, smartphones, and value-added services comparisons.</p>
		<p><u>Combating Spoofed Caller IDs</u></p> <p>In the initiative to combat spoofed caller IDs, one significant pain point that mobile network operators (MNOs) face is the prevalence of international calls with spoofed mobile numbers. When callers manipulate their caller IDs to display numbers outside of the MNO's assigned number range, it becomes challenging for operators to authenticate the legitimacy of these calls, especially when determining if the subscriber is genuinely roaming or not. This ambiguity not only compromises the integrity of the network but also poses security risks and undermines customer trust.</p> <p>To address this challenge, TRA has led an initiative in coordination with MNOs to find out the best practices to combat spoofed caller IDs. Via meetings and consultation, it became obvious that real-time data exchange with other operators is a must. By sharing information about roaming subscribers and verifying the authenticity of international calls, MNOs can enhance their ability to detect and mitigate spoofing attempts effectively. Collaborative efforts between operators, facilitated by TRA, shall enable the establishment of comprehensive caller ID verification mechanisms. This proactive approach not only enhances the security and</p>

		reliability of telecom networks but also reinforces customer confidence in the authenticity of their communications, ultimately contributing to a safer and more trustworthy communication ecosystem.
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3. Consumers with special requirements – experience review

Conduct a comprehensive survey within the telecommunications sector to understand and address the unique needs of consumers with special requirements, promoting fairness and inclusivity.

BNET	BNET obviously agrees with and supports this initiative by the Authority. BNET would like to use this opportunity to seek clarity on the wider topic of Universal Service that the Authority mentioned in the Last Workplan. As per BNET's understanding, the existing USO imposed on Batelco as per its licence terms includes the obligation to provide basic telephony services. This may no longer reflect the best market practices in terms of the scope of Universal Service including the mechanism for the selection of the USO provider and other aspects. BNET would like to encourage the Authority to conduct a review of this obligation	<p>The Authority appreciate Bnet's support for our initiative to understand and address the unique needs of consumers with special requirements. We would like to clarify that the USR mentioned in the previous workplan is no longer in our plans for two main reasons:</p> <ol style="list-style-type: none"> 1- When we initially embarked on this journey, the state of coverage was not as satisfactory as it is today. However, the coverage issues have been successfully resolved. 2- We conducted an RIA (Regulatory Impact Assessment) to evaluate the need for additional measures on LOs. Based on the RIA, we decided not to proceed with imposing any additional burdens on the licensed operators.
STC	We fully support this initiative and believe any potential improvements identified in the upcoming survey should be discussed and refined in collaboration with MNOs. Upon identification of implementable solutions/changes, we urge the Authority to conduct a thorough impact assessment to ensure that these changes truly serve their purpose, and are proportionate to the outcome sought by the Authority versus their	The Authority greatly appreciate STC's support for our initiative and value your input as a key industry player. We understand the importance of collaboration and appreciate your perspective on conducting thorough impact assessments. We will certainly seek industry input, including STC's, to refine the identified

	additional costs and resources. Once an impact assessment is completed, it should be discussed with the industry seeking the industry's input. As we are directly involved in network operations and customer experience, our input is crucial to ensure any proposed changes are implemented efficiently, effectively, and with the best use of resources.	improvements and ensure they serve their purposes while being proportionate to the outcomes sought.
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4. Assess the current state of online safety

Conduct an online safety assessment in Bahrain and collaborate with stakeholders to enhance our regional practices.

BNET	This is a right move by the Authority consistent with best international practice (e.g., the UK or the EU) and BNET fully supports the Authority in these two initiatives.	The Authority appreciates Bnet's support on this initiative. We look forward to implementing the best practices in Bahrain with the collaboration of our stakeholders.
STC	stc welcomes this initiative to make Bahrain among the safest places to go online and to start and grow digital businesses. We recommend that the Authority's study output include: <ul style="list-style-type: none"> ▪ A register of risks relating to illegal content, identified by the Authority's assessment associated with a high-risk of harm. ▪ Draft guidance on how service providers can conduct their own risk assessments and on how they can identify illegal content. 	The Authority appreciates STC's support on this initiative and for the recommendations on the best approach. We will take this into account moving forward.

5. A national online safety strategy for user protection

Develop and implement a national online safety strategy with the industry and other stakeholders.

BNET	This is a right move by the Authority consistent with best international practice (e.g., the UK or the EU) and BNET fully supports the Authority in these two initiatives.	The Authority appreciates Bnet's support on this initiative. We look forward to implementing the best practices in Bahrain with the collaboration of our stakeholders.
STC	We seek clarification on the purpose of this workstream, and whether the strategy will be implemented in the form of a framework or Guidelines. We're unsure if its focus on online safety, a potential byproduct of the digital fraud workstream, might lead to redundancy. We believe the existing SWG under Workstream #2, which has dedicated resources to combating digital fraud, may already address aspects of online safety. To avoid duplication, we kindly request further information on how this workstream differs and complements the efforts of the SWG in ensuring online safety.	The Authority appreciates STC's comments and concerns in this regard. For clarification, the SWG and the national online safety strategy work in tandem, with the former currently addressing technical aspects of online safety among mobile users whereas the strategy takes a broader approach by establishing standards aiming for a safer user experience across the internet. This is currently in its exploratory stages, and we are open to

		engage with STC to address any of their concerns.
6. Spectrum Monitoring & Analysing System		
Continuously invest in the enhancement and development of spectrum monitoring systems. Upgrade the systems with advanced capabilities and technologies that improve the efficiency of planning and spectrum utilization		
BNET	BNET notes that a similar initiative seems to have been covered by the Last Work Plan.	It is an ongoing project to ensure that the Authority has the best systems to provide its services in accordance with international best practices.
Sateliot	Sateliot fully supports the idea of enhancing spectrum efficiency and implementing effective monitoring mechanisms for frequency spectrum usage. As operators using very little amount of spectrum (1MHz for both UL and DL), having systems that monitor and analyse the use of spectrum can help identify unused or underused bands where other players could be providing services.	The Authority acknowledges and appreciates Sateliot's support.
STC	We refer to our comments made in our previous consultation response to TRA's Work Plan 2022-2023, where we feel that these comments have yet to be addressed. Specifically, we stated that though the Authority's Spectrum Management System allows licensees to request P2P frequency, interferences management is conducted manually over email via a certain number of SPOCs. We stress on implementing a transparent monitoring system where stakeholders can report interferences, closely monitor the actions taken by the Authority, the progress made, and the SLA achieved by the Authority in addressing these interferences. This system should include the mechanism for identifying the root cause of the relevant filed interference, both locally and internationally. We wholeheartedly agree and look forward to this robust and advanced system being implemented by Q2, 2024.	The Authority agrees with STC's comments, and the department concerned with systems development in the Authority is currently studying the requirements to create the required system. The service is available online through Bahrain.bh, however, the TRA is working on the second phase to address all the comments and deliver the requirements.
7. Spectrum Auction		
Ensure that MNOs have access to the necessary resources to implement their future-driven business plans on a national scale, to further support both broadband and mobile connectivity demands.		
Batelco	The Authority's expected timeline to carry out a spectrum auction is set for Q4 2024, however, Batelco believes that it is more appropriate for the spectrum auction to be delayed until the later part of 2025 as Mobile Network Operators ("MNOs") currently have	The Authority highly appreciates Batelco's valuable recommendations regarding the harmonization of the existing spectrum, particularly in the low and mid bands. This

	<p>access to sufficient resources to support both mobile and broadband connectivity demands. In designing the spectrum auction, the Authority should ensure that allocating spectrum to MNOs is done in an efficient and effective manner, i.e. bigger contiguous blocks and interference-free. In this regard, Batelco refers the Authority to the suggestions it had presented to the Authority in its meeting held on 17 October 2023, whereby Batelco had demonstrated various ways in which spectrum can be utilized efficiently. This meeting was held pursuant to the Authority's letter dated 20 June 2023 (ref: LT-WLFMD-2023-1582) regarding its spectrum needs project set out in its 2022-2023 work plan. Should the Authority implement the suggested strategies of effective utilization, deployment timelines will be expedited in a manner that ultimately benefits end users, MNOs will be encouraged to maximize investments, and better mobile coverage and quality of service will be delivered nationwide.</p>	<p>harmonization effort holds significant benefits for each MNO, and the Authority acknowledges the validity of the points highlighted in Batelco's proposal. It recognizes the value of these suggestions, as they have the potential to enhance coverage, capacity, and flexibility in traffic distribution among networks.</p> <p>It is important to note that the TRA's current strategic plan includes the release of new spectrum bands through auctions, aiming to encourage spectrum allocation that will adequately support future traffic growth and technological advancements. The Authority has given due consideration to the requirements of the telecommunications sector in this regard.</p> <p>In line with these objectives, the TRA will soon initiate the process of publishing a RFP to engage a consultancy firm. The consultancy's role will be to provide expert guidance and assist in determining the best approach to ensure the efficient allocation of frequency bands. This process will be conducted in a transparent and competitive manner, through a rigorous bidding process.</p> <p>The Authority is committed to fostering an environment that promotes effective spectrum management, and it values the contributions and expertise of stakeholders like Batelco in shaping the future of spectrum allocation and utilization.</p>
BNET	<p>BNET supports the spectrum initiatives by the Authority aimed at maintaining a world class competitive mobile services in the Kingdom.</p>	<p>The Authority acknowledge and appreciate BNET support.</p>

<p>Sateliot</p>	<p>With the evolution of technology, Mobile Network Operators (MNOs) have expanded their service offerings beyond traditional broadband services. This includes the provision of services that require limited spectrum use. In light of this development, Sateliot recommends that the Telecommunications Regulatory Authority (TRA) of Bahrain consider a more flexible approach to spectrum allocation. While spectrum auctions may be suitable for broadband services, we believe that for narrowband solutions, there should be an administrative procedure for requesting spectrum allocation. This streamlined process would facilitate the deployment of innovative services that require smaller spectrum allocations, fostering technological advancement and enhancing the diversity of telecommunications offerings in Bahrain. As spectrum allocation discussions progress in Bahrain, it's crucial to consider alternative approaches beyond auctions to ensure efficient spectrum use and drive innovation. Drawing inspiration from the system implemented in the Kingdom of Saudi Arabia, where a portion of spectrum was dedicated to NarrowBand IoT (NB-IoT) services, Bahrain could explore similar strategies. Sateliot appreciates innovative measures that prioritise emerging technologies and suggests allocating a dedicated portion of spectrum, such as 5MHz in the S-Band, for NB-IoT services. This proactive approach aligns with spectrum efficiency principles and supports Bahrain's aspirations for digital innovation and IoT adoption.</p>	<p>The Authority recognizes and understand the comments made by Sateliot, however at this spectrum auction the Authority aimed to offer the frequency bands 700, 2300, 2500, and 3800 MHz for the mobile operators.</p>
<p>STC</p>	<p>stc request the Authority to publish an Overview of the License grant process and timetable and to initiate the consultation process in Q2' 2024 We have been made aware through the Authority's recent views and commentary of its keenness to provide C-Band spectrum licenses to business, government users, and licensed operators alike, to "support their digitization plans" and allow for the establishment and support of 5G Private Networks . This raises concerns for stc Bahrain (and more than likely, other Licensed Operators), as it poses a potential threat to our existing market position and future investments. Our primary concern lies in the potential for cannibalization. A significant portion of our business case relies</p>	<p>The Authority does not recommend increasing an additional 200 MHz in the 3.8-4.2 GHz for Public Mobile as the band is already publicly announced to be utilized by Private Networks. In addition to that, other entities are claiming that the use of the band for IMT applications is impacting their current Radio Altimeter Services, therefore we do not support the proposal to add an additional 200MHz for auction as of currently. As part of our commitment to transparency, fairness and involving all relevant</p>

	<p>on providing business and enterprise connectivity solutions. Government entities and businesses are allowed to build their own private 5G networks using the C-Band spectrum, it could significantly reduce our enterprise connectivity market share. It could also weaken any business case for our existing investments in 5G infrastructure. This could ultimately discourage us from making further investments in network development, hindering overall progress in the telecoms sector. stc Bahrain proposes that before granting these licenses, the Authority should engage in open discussions with industry players and market participants. This would allow Licensed Operators to provide feedback on the proposed model and ensure a solution that benefits all stakeholders. Additionally, conducting a thorough market impact assessment would be crucial in understanding the potential consequences of this decision on the overall telecommunications landscape in Bahrain.</p>	<p>parties, the Authority will take all points raised by stc and other stakeholders into consideration by hiring a consultant company to assist defining the spectrum allocation process, assesst the market, and will address the auction's specific requirements that adhere to industry best practices.</p>
<p>Zain</p>	<p>While Zain acknowledges the Authority's objective of optimizing the efficient use of national resources, we believe that quarter 4 of 2024 is still not the opportune time for any spectrum allocation. Our concerns stem from the persistent issues mentioned in our response to the spectrum utilization questionnaire (ref. LT-WLFMD-2023-1580), primarily being the external interference issues that are experienced today by all Mobile Licensed Operators. These interference issues have impeded our ability to utilize the allocated spectrum efficiently and significantly affect the customer experience of the mobile services, impairing our ability to recoup any investment made into acquiring and rolling-out a new spectrum network. Zain also notes that during the same quarter of 2024 (quarter 4), the Authority intends to continue its project of spectrum harmonization with the GCC. We firmly believe that it should be a prerequisite before awarding any new spectrum to minimize and mitigate all future external interference challenges. Drawing from past experiences, Zain has been suffering from severe external interference since the time it acquired the frequency block in the 2600 MHz (over four years and still ongoing), rendering a significant portion of the</p>	<p>Zain: While Zain could work to increase the 2600 MHz TDD population coverage, it is worth noting that there is currently a deficiency in interference levels. One possible reason for this could be the presence of unsynchronized stations from the Kingdom of Saudi Arabia and Qatar at a distance of more than 42 kilometers, the Authority is actively engaged in managing communication with its neighboring countries, to address issues like interference effectively and is continuously advocating for a resolution. TRA is also currently working towards establishing agreements on the acceptable signal strength levels at border areas and these discussions involve bilateral, multilateral, or regional negotiations, and will actively involve MNOs in this process if necessary. Regarding the issue of harmful interference experienced by Zain, the Authority would like to address the situation and provide</p>

spectrum block inoperable, which makes it an unjustifiable investment. This issue is further heightened by the sudden increase in Fee, from 1% to 2%, which imposed a substantial burden on Licensed Operators. We emphasize that the short notice provided by the Authority to increase the Fee made it challenging for us to promptly adjust our budget for the year 2024. Therefore, we strongly urge the postponement of the spectrum auction, allowing ample time to rectify the external interference issues and make a well-informed investment decision based on reliable assurances.

some more clarifications. In the previous period, the Authority worked closely with all operators to identify the sources of this interference. It was determined that the primary cause of the interference was cross-border coverage originating from Iran. To address this issue, the Authority has engaged in continuous efforts and cooperation with neighboring countries to develop a mechanism aimed at limiting cross-border coverage. In May 2023, this mechanism was successfully established and implemented, resulting in a significant improvement in the signals received from the Iranian side. Moreover, facilitate efficient collaboration between operators in both countries by activating direct communication channels.

The Authority has also been monitoring cross-border coverage from Saudi Arabia and Qatar. Currently, efforts are underway to establish a similar mechanism with these countries to mitigate such coverage. It is expected that the mechanism will be finalized by the third quarter of 2024.

It is important to note that despite the ongoing efforts to reduce harmful interference, completely eliminating cross-border coverage permanently proves challenging due to the geographical situation and the phenomenon of wave propagation. Nevertheless, the Authority remains committed to providing the necessary support to minimize these interferences as much as possible.

The Authority recognizes that requirements for additional spectrum is dependent on the level of investment required for acquisition, terms and obligations, and maturity of

		<p>demand for new technologies & existing ecosystems. Therefore, the TRA would like to assure Zain that there is alignment in terms of the objectives of the spectrum auction which is in turn reflected in the required investment, and license terms and obligations.</p> <p>The Authority also acknowledges the quality of a phased strategy, which facilitates meticulous planning and implementation, and recognizes that Zain's choice is tightly dependent on the spectrum allocations in KSA. Understanding the choice of technology duplex is and synchronization frames adopted are crucial for any MNOs to determine spectrum band preference and investment plans as networks should be synchronized at the international level wherever possible.</p> <p>Moreover, concerning the upcoming spectrum auctions, the bands that will be made available for auction will be included in the existing agreements. Any operator interested in participating in the auction can request a report from the Authority on the current status of the bands.</p> <p>The Authority recognizes the significance of addressing harmful interference and will continue its endeavors to ensure a favorable and interference-free environment for all operators.</p>
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8. Industry Digitisation

Encourage the adoption and implementation of wireless networks to enable different sectors to use applications such as autonomous vehicles, drones, and massive industrial IoT.

BNET	BNET agrees with the Authority's approach to promote connectivity necessary for future IoT services and applications. Consistent with the principle of technological neutrality, the Authority should take into account all the various technologies that are required for a seamless IoT connectivity experience.	The TRA acknowledges and appreciates BNET's support
Sateliot	We commend the initiative of the TRA of Bahrain to develop regulatory instruments for the advancement of Massive Internet of	The TRA acknowledges the satellite industry's wished towards dedicating specific

	<p>Things (IoT). As the significance of Massive IoT continues to grow globally, it is imperative to establish a robust regulatory framework to support its development. Operators such as Sateliot are at the forefront of offering Massive IoT solutions following the Narrowband IoT (NB-IoT) NTN standard, which designates the S-Band as the service band. Therefore, we suggest to the TRA to take this into consideration and develop a framework that facilitates the operation of NB-IoT operators in the S-Band. In line with spectrum efficiency principles, we suggest that Bahrain reserves 5 MHz in the S-Band specifically for NB-IoT operators, allowing different operators to offer this type of service within the Kingdom of Bahrain.</p>	<p>spectrum for NB-IoT and other applications and is being considered via the spectrum initiatives.</p> <p>stc: the TRA is putting innovation at the forefront of all its work, and has multiple initiatives targeted specifically in creating the right environment to allow for different technologies to be adopted across different verticals.</p>
STC	<p>We refer to Paragraph 2 of this Consultation Response (the principle of Technology Neutrality) for further detail. We believe that adopting this principle and revising restrictive regulations and market definitions is crucial to encouraging the widespread adoption and implementation of wireless networks. These networks will ultimately pave the way for the explosion of massive IoT applications. We believe that given the focus on introducing cutting-edge IoT/AI applications in NTP 6, this workstream should be brought forward (it is currently set for Q4 of this year) and should be at the forefront of the Authority's Work Plan. Additionally, we should also ensure that Regulations or Guidelines previously identified as restrictive (such as the telecom specific Data Protection Guidelines which may also be viewed as extensive to the PDPL) do not hinder progress in this area.</p>	<p>The TRA notes that the data protection guidelines are sector specific, they do not contradict the data protection action, they complement it.</p>

9. Emerging Technology

To identify emerging technologies and to understand any measures necessary to facilitate its usage in Bahrain

BNET	<p>BNET notes the focus (in the Draft 2024-2025 Work Plan) on Artificial Intelligence. Given the general nature of this work stream and absence of any specific focus (i.e., covering emerging technologies in general), BNET considers whether it should be included in the 2024-2025 Work Plan.</p>	<p>Emerging technologies such as AI are considered transformative and general purpose. In other words they will have an impact across a wide range of domains and applications. Therefore the TRA is committed to further enhancing its framework to push forward on innovation with new technologies but also manage the risks associated with them. We are focused on experimenting and trialing in</p>
Sateliot	<p>We appreciate Bahrain's proactive approach in considering emerging technologies within its regulatory framework. We believe that it's crucial for the TRA to take into account operators like Sateliot, which have small spectrum needs but can offer extensive</p>	

	<p>coverage across the entire territory of the Kingdom. This aligns with spectrum efficiency principles, as it maximises the utilisation of available spectrum resources. Should the Telecommunications Regulatory Authority (TRA) decide to open a consultation specifically tailored for Internet of Things (IoT) operators, Sateliot would be enthusiastic to contribute its expertise and insights.</p>	<p>Bahrain to ensure that these technologies are adopted and implemented in a responsible and positively impactful manner. This will be done through initiatives such as light-touch guidelines that address risk without hindering innovation</p>
STC	<p>Building on our earlier point regarding technology neutrality (Paragraph 2), we urge the Authority to avoid favoring specific technologies for deploying emerging technologies. Instead, they should focus on clear, non-restrictive guidelines and regulations that foster innovation and flexibility. We encourage the Authority to heed MNO insights shared in response to consultations and openly discuss benchmarks for proven methods across various jurisdictions, allowing for efficient and effective adoption of emerging technologies.</p>	

10. NFP: 2024 National Frequency Plan

Issue the 2024 national frequency plan in accordance with the WRC-23 outcome

Sateliot	<p>We welcome the issuance of the National Frequency Plan in 2024 by Bahrain, aligning with the decisions made at the WRC-23. It's crucial to adhere to the recommendations set forth by the International Telecommunication Union (ITU) for the effective implementation of standards. Harmonising spectrum allocation across the three ITU regions promotes the widespread adoption of technologies and ultimately leads to cost reductions for end-users. In line with these principles, Sateliot recommends not modifying the current allocation of spectrum for Mobile Satellite Services (MSS) in the following bands: 1980-2010 MHz for the uplink and 2170-2200 MHz for the downlink. By maintaining these allocations, Bahrain can facilitate the deployment of MSS technologies, drive innovation, and enhance connectivity for its citizens and businesses. We consider that keeping such allocation is crucial as it allows the implementation of recently adopted 3GPP standards (Release 17).</p>	<p>The Authority acknowledges and appreciates Sateliot's recommendation. The TRA will publish the NFP that will reflect the Kingdom's international treaty's obligations. We note STC's comment but will not consult on the plan.</p>
STC	<p>The NFP should ideally be published before the new Award process and should be subject to consultation with the industry.</p>	<p>The Authority notes STC's recommendation.</p>

11. Encourage and supports satellite services

Creating the appropriate environment to attract and encourage companies to provide satellite services.

BNET	BNET considers that all technologies for communications services should benefit from an equally investment friendly environment in the Kingdom in line with the objectives of NTP6 (see Section 3 on Investment Attraction). Whilst NTP6 indeed envisages specific goals regarding satellite services, ¹¹ it also involves other investment support related objectives regarding, for example, the Cloud Hub, that should be covered during the period of NTP6.	The Authority acknowledges and appreciates BNET's support. This is consistent with providing an equally investment-friendly environment in the Kingdom, in line with the NTP6's objectives.
Sateliot	We extend our sincere appreciation for the interest shown in satellite services by Bahrain's regulatory authorities. As a satellite operator, we value initiatives that foster an enabling environment for us to provide services. However, it's worth noting that satellite services often operate within unique regulatory landscapes, which may not always be fully accommodated by existing frameworks. From our experience, regulatory frameworks may not always be well-adapted to the specificities of satellite operations and the diverse business models within the sector, including wholesalers. Therefore, we encourage the development of a regulatory environment that takes these nuances into consideration. In line with these considerations, Sateliot suggests TRA to distinguish between operators providing services to final-users, and wholesalers. Indeed, it is crucial to take into consideration the specificities of all operators when developing regulatory framework and spectrum strategies. In addition, Sateliot would appreciate the opportunity for foreign operators to offer satellite services in Tanzania without the mandatory establishment of a physical presence in the country. This progressive approach fosters innovation and collaboration in the satellite industry, aligning with our business objectives and enabling us to deliver high-quality services to customers in Tanzania.	The Authority recognizes and understands Sateliot's comments and has set its sights on reviewing and analyzing the current licensing framework and its continued relevance and performing a study proposing new terms and conditions appropriate to meet the needs of the telecommunications industry in Bahrain.
STC	MNOs in Bahrain and BNET cover 100% of the population providing high speed internet services through fibre and 5G networks. As such, we remain unconvinced about the necessity of the Authority's focus and engagement on fostering the appropriate environment to encourage satellite services	The Authority is aware of and understands the comments made by STC, but the Authority first seeks to achieve what was stated in the government's strategic plan in the fifth and sixth national programs in terms

	<p>such as Starlink , particularly considering the existing infrastructure, and specifically noting that Starlink’s business model focuses on providing high-speed broadband internet to underserved or unconnected locations.</p>	<p>of investing in modern and future technologies for communications and comprehensive connectivity and enhancing the attractiveness of investments for international players in The field of communications and technology for the country, and secondly, encouraging the development of communications services and competition among service providers, which allows the provision of better services to the end user, which includes service, stability and prices. Providing services via satellite, their applications, and communication can open the door to competition with service providers for development.”</p>
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12. Data Centre

Data Centres are integral and critical part of the nation’s digital infrastructure. We will review the appropriate regulatory framework to ensure this critical infrastructure is appropriately covered in our regulatory framework.

<p>BNET</p>	<p>BNET considers that this objective is not sufficiently clear. Does the Authority intend to cover licensing, cyber security, critical telecommunications infrastructure, connectivity or other specific concerns regarding the operation of the data centres in the Kingdom? BNET considers that the description of this work stream would benefit from further details on the policy objectives or concerns that led the Authority to consider including it in its work plan.</p>	<p>An initial draft of the basic considerations for physical connectivity of data centers has been developed. Cooperation took place with the National Center for Cybersecurity to establish cybersecurity controls related to the telecommunications sector, which address saving data through the cloud computing system.</p>
<p>STC</p>	<p>With regard to Data Centers being “appropriately covered in our regulatory framework”, we stress to the Authority that Data Centers should not be directly regulated by the Authority. While we acknowledge the importance of oversight, Data Centers, in our view, fall outside the Authority’s direct regulatory purview. Imposing additional regulations would create a more cumbersome and time-consuming environment for Investors. Lengthy approval processes and complex compliance requirements would stifle the flexibility and innovation needed to adapt data center offerings to an evolving market and technological landscape. Furthermore, having a heavy regulatory focus might shift the Authority’s attention towards ensuring</p>	<p>Concerning the approach for data centres the Authority is currently conducting a comparative study between the Kingdom of Bahrain, the Gulf Cooperation Council countries, the United Kingdom, and the European Union, in order to study the best practices for enhancing information security within data storage centers.</p>

	<p>compliance over fostering data center growth. This is essential to consider, given stc Bahrain's ambition to position Bahrain as a leading regional and global data hub. Unnecessary regulatory barriers could impede our ability to attract investment. Instead, we recommend that the Authority regulate services required to promote competition in the provision of connectivity services in Data Centers operated by operators holding SMP position in the retail market for domestic connectivity services, such as cross-connection and colocation services in their DC.</p>	
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13. BIX

The Authority will undertake the necessary processes to transfer the assets of BIX to the private market so that its assets are optimally utilized for the benefit of the broader market.

STC	<p>The proposed transfer of BIX assets to the "private sector" raises crucial concerns and questions that require further clarification from the Authority before we can fully evaluate its implications. Specifically, we require that the asset transfer should be subject to an open, competitive bidding process to ensure fairness for all operators, and whether any specific criteria has been defined so far as to what will guide the Authority's selection of the winning bidder. We also query what specific assets are included in the asset transfer, and whether the asset transfer as it is currently envisioned by the Authority will have any implications on competition and connectivity in the Kingdom. Will this be subject to a consultation phase?</p>	<p>The Authority will undertake the necessary processes to transfer BIX's assets to the private market in a way that seek to achieve optimal utilisation of its major assets.</p>
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14. AI Regulatory Framework

Establish the AI regulatory framework to create a conducive regulatory environment that enables Bahrain to be a leading nation in the adoption and implementation of AI.

BNET	<p>BNET notes the NTP6's objectives regarding the development of a national AI strategy; establishment of regulations, guidelines, or standards as well as introduction of a national oversight council, bringing together leaders in AI across industry, academia, and the public sector.¹² As far as BNET is aware, the US has set out its most sweeping set of AI rules and guidelines yet in an executive order issued by President Biden in October 2023. A comprehensive regulation on AI will soon be adopted by the European Parliament. In June 2023, China's state council, the top governing body, announced that "an artificial intelligence law" is on its legislative agenda.</p>	<p>The TRA notes BNET's response and is working towards a strategy the shall tackle AI in a manner that is beneficial and specific to Bahrain.</p> <p>We are cognisant of how different jurisdictions have tackled the question of AI regulation, and we are taking the route of light-touch guidelines that will encourage the design, deployment, development and use of ethical and responsible AI with measures to reduce and</p>
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	<p>This benchmark suggests that the national strategies and policies for such revolutionary technologies that span almost all sectors of the economy, including the legal framework governing their implementation and use, are usually adopted by the legislators and not sectoral regulators. We believe that the principles of AI regulation require a broader legal framework and that such requirement was at heart of NTP6 regarding the review of the Telecommunications Law.13</p>	<p>mitigate risk. Setting up comprehensive regulations may have its merits but we believe that for 2024, it is still too early set full regulations and will therefore set general guidelines that will help create an environment of ethical and beneficial practices in Bahrain in regards to AI</p>
STC	<p>We endorse the Workstream's focus on a flexible and adaptable regulatory framework. Such an approach is crucial for positioning Bahrain as a leading nation in the telecom industry. We believe collaborative efforts with the Authority are essential to ensure the framework reflects the needs and challenges faced by operators.</p>	

15. Telecoms Law

The TRA will undertake a comprehensive revision of the existing Telecommunications Law. To ensure the Kingdom's legal framework for the developing telecommunications sector remains relevant and forward looking whilst maintaining the Kingdom's pro competitive approach.

Batelco	<p>Batelco has previously highlighted the importance of reviewing the existing Telecommunications Law ("Law") and while certain amendments have been made to the Law pursuant to Legislative Decree No. 18 of 2023, the Law remains fundamentally unchanged since its issuance 22 years ago. The fundamental changes required remain overdue and are briefly mentioned below: Operators which hold twenty-five percent or more of the market share of a market being assessed by the Authority fall within the Law's definition of 'Operator with Significant Market Power'. Placing significance solely on market share is contrary to international standards whereby multiple other factors must be considered when assessing market power. The Authority's duties and power under Law should include the promotion of investment in telecommunications networks and services. Including such a duty would be in line with the Government's goal in its Sixth National Telecommunications Plan of increasing investment and economic growth in the Kingdom. References to Batelco in the Law should be removed as they were included when Batelco was the monopolist in the Kingdom's telecommunications market. These references are indicative of the outdated nature of the existing Law. As</p>	<p>The TRA recognises that the Law has remained fundamentally unchanged since its enactment. It also is aware that the definition of significant market power might not necessarily align with the definition adopted in other jurisdictions. It agrees with an operator's comment that its remit should be revisited and has sympathy for that view. The TRA acknowledges that the arbitration process could be more cost effective. However, a balance needs to be achieved to avoid vexatious and frivolous appeals which would lead in a waste of time and resources. In this project, the TRA expects to engage heavily with the industry. On the comment regarding the telecoms law and the expectation for consultations prior to any changes. The TRA clarifies that the process of enacting and/or amending the law is under the purview of the legislator. We will ensure that the industry's comments are</p>
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	<p>currently drafted, the Law only permits operators to appeal against any decision, order, or determination issued by the Authority by way of Arbitration. As the Authority is aware, there are many tools for appeal which are less cumbersome and are in line with regional practice.</p>	shared to the relevant authorities.
BNET	<p>BNET notes the NTP6's requirement for the Authority to undertake a comprehensive review of the existing Telecommunications Law.¹⁴ BNET expects that such an important project will be subject to multiple consultations with the industry allowing the key stakeholders to comment and express their views. BNET therefore respectfully request the Authority to share a detailed plan including the timelines for this project and the consultations. BNET would like to suggest that the new Telecommunications Law should include a comprehensive procedural framework governing the exercise of the various powers of the Authority including, where applicable, a more accessible regime for review of its decisions similar to the regimes in other jurisdictions, which fosters the regulatory practices and in line with the principles of transparency, fairness, proportionality, good administration, predictability and accountability.</p>	
STC	<p>One of the integral aspects of the Telecommunications Law that requires amendment, in stc Bahrain's view, is the current appeals method under Article 66 of the Telecommunications Law. The current process of appeal (i.e. arbitration) is cumbersome, costly, and prolonged. In order to afford both the Authority and Licensed Operators with a smoother and more efficient method of resolving disputes in a clear and transparent manner, stc Bahrain that a separate and dedicated Workstream is established to evaluate the inclusion of other modes of appeal within the Law. This could be through appeals to the courts of Bahrain, which is important when considering cases involving implementation of government policy, or establishing a dedicated Fixed Tribunal. The Fixed Tribunal would consist of legal experts with telecommunications experience and operate independently with clear procedures and publicly accessible decisions. We believe this would lead to faster, more cost-effective, and transparent</p>	

	dispute resolution, fostering a healthier and more competitive telecommunications industry. This would require a group effort between the Authority, operators, and the Ministry of Justice and Islamic Affairs.	
16. Licensing Framework		
Revised Licensing framework		
Batelco	<p>The Authority first issued a consultation document regarding changes to the licensing framework governing the telecommunications sector in 23 December 2021, this was followed by a second consultation on 6 November 2022. The Authority has yet to report on the outcome of both these consultations despite engaging with the industry through several forums. It was originally envisaged by the Authority that completion of the licensing framework project would occur in Q4 2022. The current Consultation proposes that the Authority will only complete this project in Q2 2024. The Authority should take into consideration the industry's feedback already provided throughout the consultation process. Assessment, simplification, and improvement of the existing licensing framework is a necessity considering the industry changes that have taken place in the past few years and the rapid technological advancements.</p>	<p>The TRA acknowledges the helpful comments raised by the industry. While noting that this highly ambitious project was earmarked for completion in 2022, the TRA remains committed to ensure a licensing framework that is relevant not only for today's communications market but also covers the way digital services will be delivered in the future. In so doing, it is moving away from a technology/service specific regime to a flexible framework that will accommodate the diverse range of services that can be provided over a plethora of different platforms. The TRA does not agree that the concurrent review of the Telecommunications Law would necessarily prompt a realignment of the licensing project especially when the proposed licence terms and conditions have been extensively consulted upon and when the project is reaching its conclusion. One respondent proposed that it should be possible to provide satellite capacity without the requirement to establish a physical presence in Bahrain. While the licensing project does not revisit the requirements to related to individual and class licences, it is pertinent to point out that it is not necessary for a licence applicant to be a juristic entity incorporated in the Kingdom of Bahrain. The same respondent commented that it supported dedicated frameworks for IoT services. The TRA refers to its position paper on IoT that</p>
BNET	<p>The Authority first issued a consultation document regarding changes to the licensing framework governing the telecommunications sector in 23 December 2021, this was followed by a second consultation on 6 November 2022. The Authority has yet to report on the outcome of both these consultations despite engaging with the industry through several forums. It was originally envisaged by the Authority that completion of the licensing framework project would occur in Q4 2022. The current Consultation proposes that the Authority will only complete this project in Q2 2024. The Authority should take into consideration the industry's feedback already provided throughout the consultation process. Assessment, simplification, and improvement of the existing licensing framework is a necessity considering the industry changes that have taken place in the past few years and the rapid technological advancements.</p>	
Sateliot	We welcome the revision of the licensing framework in Bahrain and appreciate the	

effort to develop a framework that accommodates the diverse range of services that can be provided. It is essential to recognize the specificities of different services and tailor licensing procedures accordingly. We support the idea of having distinct licenses and licensing procedures for broadband and narrowband services, as well as dedicated frameworks for Internet of Things (IoT) services. Many countries have already begun developing such frameworks, and we believe Bahrain would benefit from following suit. Moreover, Sateliot considers it crucial to take into consideration the various business models within the telecommunications sector. We suggest the revised framework to differentiate licensing requirements for service providers targeting end-users from those catering to wholesalers. This differentiation would ensure a more conducive environment for innovation and competition. Additionally, we hope for the opportunity to provide satellite capacity without the necessity of establishing a physical presence in the country. This flexibility would enable us to deliver our services efficiently while contributing to the growth of Bahrain's telecommunications sector. We advocate for the establishment of a framework that allows foreign satellite operators to request and obtain spectrum authorization in Bahrain. Such a framework would align with spectrum efficiency principles and promote fair competition in the telecommunications sector. Considering having an "open skies" regime, prevalent policy in Europe and many other parts of the world, allows satellite operators to make satellite capacity available without seeking landing rights. In this manner, regulatory authorities retain the ability to ensure the efficient and non-interfering use of frequencies while encouraging competition in their markets, bringing consumers a better choice, and lowering costs. The "Open skies" policy eliminates barriers to entry and allows domestic licensees to choose satellite services from among multiple operators, which helps to increase competition, reduce costs, and bridge the digital divide. The open skies policy provides the necessary measure for an open, competitive market with non-discriminatory access for both domestic and non-domestic satellite operators.

was published in 2023. The TRA disagrees with the comment raised by a licensed operator that Batelco has more favourable licensing terms and conditions in comparison to its competitors. The TRA's view is that in actuality the opposite is true in that Batelco's licence contains more onerous terms and conditions.

STC	<p>Stc Bahrain expresses its surprise with the delay of this Workstream and the fact that it has been carried forward from the previous Work Plan 2022-2023. Stc notes that 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. 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. Stc understands that some of these conditions were originally introduced and suggested by licensees for the grant of their licenses at their inception. stc believes that the sustainability of healthy competition and the promotion of investment in the sector are more important factors to be taken into consideration when reviewing the abovementioned conditions. We encourage that this Workstream is expedited, noting the delay of this project since 2022.</p>	
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17. Review Regulatory Guidelines

The TRA will review and update a number of policy and procedure guidelines.

Batelco	<p>The Authority proposes to review and update a number of policy and procedure guidelines, one of which it specifically mentions is the Dispute Resolution Guidelines. Batelco agrees with this initiative and takes this opportunity to emphasize the need for a comprehensive review of the Dispute Resolution Guidelines. The Authority would undoubtedly appreciate the need for an effective and prompt dispute resolution process not only for mediation purposes between licensed operators but to deter any potential, occurring, or recurring misconduct.</p>	<p>The TRA notes BNET's and Batelco's positive comments with regards to this particular workstream. Another operator has commented that other projects were deserving of a higher priority and that the TRA should focus on those other high priority projects. The TRA wishes to point out that it remains committed to pursue all its planned initiatives since it believed that they are all equally important.</p>
BNET	<p>BNET noted the views expressed by the Authority in the last Open Forum regarding the extension of the review to the Fining Guidelines. BNET refers to the earlier comment regarding the need for a comprehensive procedural framework governing the exercise of the various powers of the Authority.</p>	
STC	<p>General comments: stc Bahrain respectfully reiterates its response to the Authority's consultation on the proposed annual license</p>	

fee increase (Ref: 1223-CS-RG-046). Our concerns stem from two key areas. Firstly, we have observed a recent shift towards a lighter regulatory touch by the Authority, exemplified by its approach on the BNET Cost Model, Retail Fixed Broadband Market Review, and limited published investigations on operator disputes. While we appreciate streamlined regulations in some areas, we believe this approach has inadvertently deprioritized several crucial initiatives of significant importance to operators. Instead, the Authority had prioritized new Workstreams that were not included in the Work Plan 2022-2023, like the FPPT, Data Protection Guidelines, and Settlement Guidelines. While these initiatives have merit, they were not outlined in the initial Work Plan and do not offer substantial value to the industry at this time. We urge the Authority to reconsider its current prioritization if we are to collaborate effectively on key workstreams critical to all industry players in this proposed Work Plan 2024-2025. Secondary initiatives outside the Work Plan should be deferred. This would free up vital resources within both the Authority and the industry to focus on the essential items originally identified, which remain crucial to achieving national telecommunications policy goals. Secondly, we respectfully remind the Authority that Guidelines and Directions are not legally binding instruments. Any policy pronouncements impacting the telecommunications industry significantly should be implemented through instruments or legal tools explicitly authorized by the Telecommunications Law itself. This ensures clarity, transparency, and adherence to the legal framework governing the sector. With regards specifically to Dispute Resolution Guidelines, we urge the Authority to implement more stringent and enforceable SLA(s) on itself when resolving disputes between operators, whereby disputes should be closed within a max period of five (5) months to ensure timely and efficient resolution of disputes. The Authority should also explore an enhanced form of reporting disputes and comprehensively report investigations on operators, including the timely issuance of Final Orders.

18. Data Protection Guidelines

Implement a data protection framework that regulates the processing of personal data in the telecommunication sector.

BNET	BNET understands that this task was already completed by the Authority by issuing, in February 2024, new Guidelines on the Privacy of Individuals and Data Protection in the Telecommunications Sector. However, should the Authority have different plans for issuing further guidelines on these matters for the telecommunications sector, BNET would respectfully request more details.	In response to a comment raised by one operator, the TRA confirms that the task was completed by the issuance of the guidelines. STC suggested that the guidelines do not confer obligations additional to those under the Personal Data Protection Law.
STC	With regard to the Data Protection Guidelines, and with great respect to the Authority, we had already made our comments in our consultation response (stc Ref: 1023-CS RG-039), whereby we queried the rationale as to the introduction of these Guidelines, especially noting that the industry made no request for them, and that the PDPL is already robust. We greatly advocated for thorough research and a collaborative approach before introducing new regulations or Guidelines, and we hope the Authority moves forward in this regard for future policies. For the avoidance of doubt, the Final Direction released by the Authority on 21 January 2024 (LAD/0124/001) on the Guidelines cannot and should not denote that any further personal data protection legal obligations are conferred upon the operators, with the exception of existing personal data protection legal obligations from the PDPL.	The TRA disagrees. Licensees are indeed required to comply with the provisions of the Data Protection Guidelines. The same operator suggested that there was no industry requirement for these guidelines. The TRA wishes to point out that the Data Protection Guidelines have been consulted upon extensively since 2017, and the Guidelines represent the culmination of that work.

19. Enhancing ID Verification Method for SIM Cards Registration

Improve methods of verifying the subscribers' IDs to enhance identity verification in SIM cards registration and to simplify the registration for the consumers

BNET	BNET understands that this work stream was completed by issuing by the Authority, in February 2024, a Facial Recognition Requirements Document.	Initiative completed by issuing the FRT guidelines. Implementation is to take place later this year. We thank the MNOs for their collaboration.
STC	We thank the Authority for this initiative, and look forward to its implementation this year.	

20. Cyber Security Controls

Strengthen cybersecurity measures in the telecom sector.

BNET	BNET understands that the Authority in 2023 communicated consultations on documents prepared by the Ministry of Interior - National Cyber Security Centre regarding 1. National Risk Management Framework, and 2. the Cybersecurity Controls for the Telecom	This initiative involves the introduction of a comprehensive framework to regulate the implementation of cyber controls specifically designed for the telecom sector. These controls
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	Sector. BNET would like to understand whether the present workstream refers to issuance of a final position paper or guidelines following last year's consultation or something else.	were developed in partnership with NCSC, and input from the industry has been considered. Once the NCSC's controls are endorsed, the initiative will commence. However, to ensure the security of the kingdom's telecommunications services the Authority will ensure that appropriate guidelines are amended to reflect any lessons learned and best industry practice.
STC	Please see our comments above re: Guidelines.	

21. Review of BNET Economic Regulatory Model

Review of the economic regulatory model under which BNET's reference offers would be determined in case of non approval by the TRA

BNET	BNET believes that the industry would welcome more details on the overall approach and a more detailed plan for consultation on the new BNET Economic Regulatory Model including the focus of the various stages in the consultation process. That would help BNET and the other licensed operators to efficiently plan resources and have a better visibility of the various phases of the overall process and their focus.	The Authority is continuing to develop its proposals and will consult in Q2 of this year.
STC	This Workstream should ideally include a mandatory review of the costing and pricing models "employed" by BNET. This has been proposed for consultation for Q1, 2024, and yet we have not seen any movement in this regard. This should be expedited given BNET's recent introduction of an approved Reference Offer (whereby very different iterations of this Reference Offer was put forward by BNET in terms of prices and pricing strategy) seems to be loosely based on benchmarks. We do not believe that these prices have been introduced at sustainable levels, hence a costing model is unequivocally required. We re-iterate that the Authority should be concerned with realizing micro-economic goals before tackling with global competitiveness, as a more microeconomic view is required to ensure sustainability of economic conditions in retail markets.	

22. Artificial Intelligence: AI Event

Host an international level event with great global and regional speakers on AI relevant to the countries aspirations towards an innovation hub.

BNET	BNET welcomes the initiative by the Authority to host an AI event.	The TRA notes BNET's support and will engage with the industry
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		to ensure a successful and beneficial event
23. Barriers analysis on fixed broadband and domestic connectivity		
Study and identify potential barriers to the further emergence of effective competition in retail fixed broadband and domestic connectivity services in the Kingdom of Bahrain		
BNET	BNET notes that the Authority included a review of the Retail Broadband and Domestic Data Connectivity Market in its Last Work Plan. This review was however not conducted and the last review dates back to 2014. It is not clear why the Authority decided against conducting the standard market review of this market despite the long time which passed since its last review (i.e., 10 years) and instead plans to conduct a study of possible barriers to entry and expansion of the effective competition. BNET considers that a standard market review is warranted as, for example, the significant savings in the costs of the wholesale input brought by the recent upgrade of WBS speeds by BNET, were not passed on to the consumers. This is indicative of market failures that should be addressed by the Authority.	The Authority has engaged with all licensed operators and will consider if and what actions are required, that would be targeted and proportionate. The Barriers analysis aims to address the wider market issues that impact the continued development of competition.
STC	This activity is described as identifying possible “actions” for the promotion of effective and fair competition. A TRA-led market review is the most effective approach due to the potential scope and impact, as denoted in our earlier meetings with the Authority and in line with the Authority’s Competition Guidelines.	
24. Improve fixed and mobile inbuilding (IBS) connectivity.		
Improve users experience with both mobile and fixed indoors and remove barriers for fibre services.		
BNET	BNET warmly welcomes this work stream that builds on the objectives stipulated in NTP5 and reiterated by NTP6. This is a crucial move to remove any remaining barriers to the availability of gigabit services over fibre in the Kingdom. BNET would like to understand the Authority’s plans for improving the enforcement of the Code of Practice for in-building fiber infrastructure deployment and introducing updates to the Code especially considering the submission on the updated technical standards for the various types of building that BNET submitted to the Authority last year.	TRA has developed and published the Guidelines for In-Building Telecommunications Access Facilities and made it available to contractors and engineering offices by including the Guidelines into the Municipal unified Guideline where contractors and engineering offices follow during construction of new buildings. TRA currently working, in coordination with the concerned parties, to make implementing the Guidelines mandatory for issuing the building permits.
STC	Agreed. We would appreciate if this initiative could be brought forward rather than Q3,	

	2024, as this request has been made multiple times by the industry over the years.	It must be noted that the process of enforcing the Guidelines and making it part of the process of issuing the building permit requires the review of the relevant parties and obtaining their approvals according to their procedures. Therefore, it is difficult to advance the enforcement date, but TRA will work to do so.
Zain	Zain strongly supports the proposed initiative to enhance fixed and mobile in-building connectivity; we firmly believe it will foster various benefits, including expanded coverage, improved service quality, and enhanced customer experience. Moreover, it will address the challenges faced by Licensed Operators, as installing fixed or mobile connectivity is currently not mandated for developers during construction. It will allow Licensed Operators to overcome the difficulties experienced in ensuring optimal coverage and service quality in indoor places, as the IBS does not mandate developers to install fixed or mobile connectivity during construction. Considering this, we believe this project deserves immediate prioritization and should be set for the first half of 2024, enabling Licensed Operators to reap its benefits at the earliest opportunity, particularly given the delay in its implementation thus far.	

25. Reviewing GCC Roaming regulation

Review and assess the current retail and wholesale price caps.

Batelco	The GCC roaming caps have been set pursuant to Ministerial Decision No. 19 of 2015, applying wholesale and retail tariff caps for each subsequent year from 2016 to 2020. While the Ministerial Decision dates 9 years back, however, the price caps it set are self-evidently forward looking. The existing roaming prices remain competitive in both the wholesale and retail markets with consistent growth in data roaming traffic. Batelco would therefore oppose any unwarranted regulatory intervention.	The Authority would like to clarify that the review is part of the GCC roaming regulation that was issued by a GCC council ministerial decision in 2015 and was implemented for the years between 2016-2021. This review is being undertaken by the GCC council- Roaming team to assess the effectiveness of the implemented regulation and advise on the recommendations.
STC	The GCC roaming caps have been set pursuant to Ministerial Decision No. 19 of 2015, applying wholesale and retail tariff caps for each subsequent year from 2016 to 2020. While the Ministerial Decision dates 9 years back, however, the price caps it set are self-evidently forward looking. The existing roaming prices remain competitive in both the wholesale and retail markets with consistent growth in data roaming traffic. Batelco would therefore oppose any unwarranted regulatory intervention.	

26. Review of Consumer Surplus Study

Assess the Consumer surplus in telecommunications services

BNET	BNET would like the Authority to share more detail on the objective and outcome of such study and its benefits for the sector.	We take note of operators comments. Despite having a competitive market, the Authority will remain committed in monitoring the markets from all aspects and will remain committed in involving the industry in each study outcomes.
STC	The Bahrain telecom market is highly competitive and prices are amongst the lowest in the region. Given this market situation, we do not feel a review of consumer surplus is warranted.	

27. Batelco APM

Review and analyse the proposed changes to the APM and the regulatory accounts. Define improvements as appropriate.

Batelco	As part of its recurring projects during Q1 of 2024, the Authority intends to review and analyze proposed changes to Batelco's Accounting Procedures Manual ("APM") and regulatory accounts and to define appropriate improvements to promote effective competition. Batelco welcomes this initiative especially that the Authority has prioritized this exercise to take place during Q1 of this year. Furthermore, Batelco believes it to be equally important that improvements are introduced to the entire Accounting Separation framework ensuring that any excessive regulatory burdens are lifted. For example, submission of regulatory accounts and APMs should, at the very least, be minimized in scope and limited to the market in which the affected licensee is found dominant.	The Authority takes Batelco's comment into consideration.
STC	We request that we are made privy to this, as currently, we lack insight into the factors that influence Batelco's pricing structure in the markets where it holds SMP position and lack oversight/access into its product pricing mechanisms (see detailed commentary on BNET's costing model).	The Authority is committed to ensuring it is always transparent and will communicate any changes to the industry as and when appropriate.

28. QoS & QoE Measurements Drive Tests

Batelco	Another recurring project set out in the Consultation is the Mobile Quality of Service and Experience testing done on an annual basis and conducted to assess MNO performance. The Authority typically carries out testing during Q4 of each year and intends to maintain this timeline as shown in the Consultation. Batelco proposes that it is more appropriate for the Mobile Quality of Service and Experience testing to be	The TRA has altered its methodology and shifted its focus of the mobile audit and QoS/QoE measurements towards a more consumer centric approach, where we are trying to best gauge the consumer experience when and where they are using mobile networks.
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	<p>conducted during Q1 of each year. As the Authority is aware, Q4 of any given year is a demanding period for each organization and falls during the final stages of the roll-out project. It is therefore more appropriate to conduct testing during Q1 of each year, a period in which harmful interference is also at its lowest. Testing during this period will facilitate MNOs ability to work jointly with the Authority and efficiently participate in the preparedness phase and pre kickoff alignment with a shared goal of enhancing the testing methodology.</p>	
STC	<p>We advocate for fair and objective QoS/QoE drive tests and these should be conducted using a standardized methodology. To reiterate our previous requests and to ensure accuracy, the Authority should proactively address external interferences before testing commences.</p>	

29. Interference Detection & Resolution / Spectrum Harmonization with GCC

Batelco	<p>The Authority has illustrated the criticality of addressing harmful interference through its inclusion of several projects aimed at mitigation and resolution. However, the proposed timeline for these initiatives, scheduled for Q4 of 2024 and 2025, raises concerns. It is pertinent that these projects are brought forward as spectrum is a finite resource and any degradation to its quality is an issue that impacts MNOs and subscribers alike. By delaying the mitigation and/or resolution of harmful interferences, end users are likely to be impacted with poor quality services, technology enhancements will be delayed, and investments made by MNOs to acquire spectrum and provide mobile services will be affected.</p>	<p>In fact, the Authority has sought over the past years to reduce cases of harmful interference, and indeed interference complaints have decreased significantly by identifying and stopping the sources of interference, and also through continuous coordination with the concerned authorities inside and outside the country. We also seek, through this initiative, to enhance cooperation between operators in the Gulf countries, especially in the issues of cross-border coverage, which will facilitate and accelerate the procedures for resolving harmful interference, but at the same time, determining the appropriate values requires continuous measurements during the year, and for this reason the completion period of this initiative was set at Q4 of 2024.</p>
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30. Spectrum Harmonisation with GCC

Sateliot	<p>Sateliot fully supports spectrum harmonisation efforts within the GCC.</p>	<p>We seek, through this initiative, to enhance cooperation between</p>
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	Spectrum harmonisation is paramount in preventing interferences with neighboring countries and ensuring the seamless operation of telecommunications services across borders. As a satellite operator, we recognise the significance of this harmonisation for providing uninterrupted and reliable services. Spectrum harmonisation facilitates the resolution of interference issues and promotes the efficient use of spectrum resources.	operators in the Gulf countries, especially in the issues of cross-border coverage, which will facilitate and accelerate the procedures for resolving harmful interference, but at the same time, determining the appropriate values requires continuous measurements during the year, and for this reason, the completion period of this initiative was set at Q4 of 2024.
STC	We query why this workstream has been set for Q4 2024 and request that it is brought forward. It is imperative that this is resolved at once.	The Authority acknowledges and appreciates Sateliot's support.

31. National & International Engagement

Sateliot	We are pleased to learn that the TRA of Bahrain will be actively participating in ITU-R meetings. We appreciate this commitment and recognize the importance of all countries participating and contributing to these events. We share a keen interest in contributing to the new Agenda Items on Satellites (WP4) within ITU-R and look forward to engaging in discussions alongside TRA representatives. Additionally, we value the opportunity to maintain fluid communication with TRA, allowing us to share our contributions, seek support, and provide updates on developments within ITU-R Working Group 4. This collaborative approach ensures alignment between industry stakeholders and regulatory authorities, fostering innovation and progress in Bahrain's telecommunications landscape.	The Authority noninated two of its employee as a Vice-Chairman for Study Group 1 (SG1) - Spectrum Management and as a Vice-Chairman for Study Group 5 (SG5) - Terrestrial Services. Both candidates possess extensive experience within the ITU, particularly in the ITU-R. Their profound involvement with the ITU-R and their comprehensive understanding of the Bahrain ICT sector make us confident that both of them will make substantial contributions to the work of their respective Study Groups as Vice-Chairmen throughout the upcoming study period. They have demonstrated their commitment by closely following the activities of the Study Groups over the past few years, actively engaging in discussions, regularly convening Study Group meetings, and providing invaluable support to the entire management group. The approval of the Vice-Chairman list will be determined and the first upcoming Study Group meetings, this due to the large number of condidates.
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		<p>Sateliot: The Authority acknowledges and appreciates Sateliot's support and cooperation. The Authority seeks to play its full role by attending and contributing to all meetings of the Radiocommunication Sector and the Radio Regulations for Terrestrial and Space Services and their study and work groups. This will include participation in Satellites (WP4) within the ITU-R, in which we look forward to cooperating with you and all industry stakeholders in terms of exchanging contributions and supporting each other on developments within the ITU-R Working Groups.</p>
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32. Review competition complaints review

Sateliot	<p>We commend the TRA of Bahrain for its commitment to reviewing competition complaints reviews and competition guidelines. As a new company in the telecommunications industry, we have observed that spectrum allocation practices sometimes result in inefficient use, hindering the entry of new services and technologies into the market. From our experience, spectrum is occasionally allocated to operators who do not fully utilise it, undermining spectrum efficiency and limiting opportunities for innovation and competition. It is crucial for regulators to address this issue and develop mechanisms to ensure the effective utilisation of allocated spectrum. To promote competition and encourage efficient spectrum use, we suggest that TRA establishes a requirement for all operators allocated spectrum to demonstrate connection with at least 10 devices within two years of obtaining the license. This requirement would incentivise operators to actively deploy services and contribute to the development of the telecommunications ecosystem in Bahrain.</p>	<p>Having considered this project and responses, we have decided to not proceed.</p>
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33. Annual Consumer Experience Survey:

STC	<p>As previously communicated to the Authority, we fully support the annual consumer experience survey initiative, as it offers us valuable insights and allows us to</p>	<p>The Authority notes STCs suggestion for collaborative efforts. these points will be</p>
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	<p>compare with our own surveys. However, we believe collaborative efforts are crucial to guarantee the survey's objectivity, fairness, and accurate reflection of customer satisfaction across all facets of telecom services. To achieve this, we propose a joint development process for the survey questionnaire, ensuring it effectively measures relevant aspects of customer experience without any potential bias. Additionally, prior to publication, we believe operators should be afforded the opportunity to review and provide feedback on the preliminary results. This transparency would allow for clarification of any potential misinterpretations or ensure factual accuracy, ultimately leading to a more accurate and representative survey outcome.</p>	<p>carefully considered as the project formally begins.</p>
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34. Compliance Program

<p>STC</p>	<p>We appreciate the Authority's focus on fostering compliance within the industry. However, we seek clarification regarding the proposed "recognition of non-compliant licenses." Does this imply public disclosure of non-compliance before engaging with the licensees directly to discuss the concerns and potential remedies? We believe such an approach could be counterproductive. While we agree with the Authority's aim to encourage self-regulatory compliance among operators, we note a potential discrepancy between this objective and the planned non-recurring project workstream #3. We also expect the Authority to monitor the compliance of dominant and SMP operators to the remedies imposed by the Authority in its relevant determinations such as in the domestic connectivity market.</p>	<p>The Authority understand STC's concerns and would like to clarify that any findings from compliance review/assessment will be discussed directly with each MNO to address concerns and explore potential remedies. As for fostering compliance within the industry and ensuring that all operators, including dominant and SMP operators, are monitored for compliance, the Authority would like to confirm that there is a mechanism already in place to monitor the compliance of the remedies imposed on the DMP and SMP operators in the relevant markets. the TRA will remain committed to fostering the compliance framework within the industry.</p>
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35. Awareness Campaigns

<p>STC</p>	<p>We recognize the importance of empowering consumers through awareness campaigns. However, it is crucial that such campaigns are impartial and objective, avoiding any actions that could advantage or disadvantage specific operators. Furthermore, the information presented should be accurate and up-to-date, ensuring consumers receive reliable guidance (please see our response to</p>	<p>The Authority notes STC's comment and we'll ensure our awareness campaigns remain accurate and up to date.</p>
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	Workstream #1- Qaren under the Non-Recurring Projects list).	
36. Market Indicator Report:		
To monitor the sector and analyse the impact of regulatory action.		
STC	The Market Indicator Report should be reviewed for clarity purposes in terms of its definitions to ensure a uniform understanding and application amongst all Licensed Operators and accurate first-time submissions. Definitions should also be reviewed by the Authority in a manner that prevents any Licensed Operator from manipulating or inflating numbers as we have seen with voice subscribers.	The Authority notes stc's comments and the last review of the definition was done in 2022. TRA's definitions generally are in line with the ITU's definitions.
37. Annual Arab Price Benchmarking Report		
To facilitate tracking the telecommunications sector performance avertime and relative to other countries.		
STC	Agreed, and we request that we be made privy to validated reports on a timely basis.	
38. Annual Consumer Surveys		
STC	We find the objectives and scope under this Workstream to be unclear—there appears to be an overlap with both Workstream #1 and Workstream #6, and might be considered duplicative. To ensure efficient resource allocation and avoid unnecessary overlap, we suggest removing this workstream. Alternatively, if this workstream serves a specific purpose, we request the Authority to clarify its specific objectives, scope, and how it differentiates itself from the existing workstreams.	
39. Telecom Security Cyber Drill Exercise		
STC	We fully support the Authority's initiative, however, we believe it's crucial to ensure a collaborative approach that involves operators throughout the planning process.	The operators shall be engaged in the designated stage.
40. Interference Detection and Resolution		
STC	We query why this has been scheduled for end of 2025, noting its current significance and the frequent interferences we face today.	In fact, the Authority has sought over the past years to reduce cases of harmful interference, and indeed interference complaints have decreased significantly by identifying and stopping the sources of interference, and also through continuous coordination with the

		concerned authorities inside and outside the country. We also seek, through this initiative, to enhance cooperation between operators in the Gulf countries, especially in the issues of cross-border coverage, which will facilitate and accelerate the procedures for resolving harmful interference, but at the same time, determining the appropriate values requires continuous measurements during the year, and for this reason, the completion period of this initiative was set at Q4 of 2024.
41. BNET Accounting Procedure Manual (APM) and regulatory accounts review		
Review and analyse the proposed changes to the APM and the regulatory accounts. Define improvements as appropriate.		
STC	We request that we are made privy to this, as currently, we lack insight into the factors that influence BNET's pricing structure and lack oversight/access into its product pricing mechanisms (see detailed commentary on BNET's costing model).	The Authority is committed to ensuring it is always transparent and will communicate any changes to the industry as and when appropriate.
42. Retail Tariff Review		
STC	We invite the Authority to prioritize this action and to conduct an extensive audit in the relevant markets and to publish its reports.	
43. International Indices		
STC	Agreed, and we request that we be made privy to validated results on a timely basis.	
44. Review Competition Complaints		
STC	Please see our detailed comments under Workstream #17 where we have requested more stringent deadlines upon TRA to submit their findings.	
45. Exceptional Facilities Access Services (EX-FAS) applications		
STC	We agree with this initiative, however we implore that both the Authority and BNET respond to EX-FAS applications in a timely manner.	

46. Regional and International Involvements

STC	We find this Workstream to be vague. We request further clarity and specificity from the Authority as to the Workstream's scope and objective.
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47. Review of the International Connectivity Market

Batelco	The Authority's Determination of Dominance issued in 2020 is built on the basis of bottlenecks that hinder access. Batelco has demonstrated in numerous correspondence, no such bottlenecks exist and Batelco is in no position of economic power that would enable it to prevent or hinder effective competition in the international market. NTP 6 emphasizes facilitating and supporting investment in international connectivity. The regulatory framework put in place restricts Batelco and acts as a barrier to investment. Batelco urges to initiate an immediate review of the International Connectivity Market	TRA has not seen evidence that suggests such a material change in this market so as to initiate "an immediate review". Furthermore, the remedies imposed by the TRA were set in such a way so as to encourage investments in international connectivity. The TRA therefore disagrees with Batelco that the existing framework "acts as a barrier to investment".
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48. Regulatory Impact Assessments

49. Market Review - Retail Broadband and Domestic Data Connectivity

Zain	Zain urges prioritizing a market review to assess the competition forces. The Authority has intended to perform a market review in its previous work plan, this project cannot be overlooked any longer and should be included in the current. A market review is necessary to ensure that the final determination and scope of the regulatory framework at the retail level adequately address competitive developments in the telecommunications market. Given its unique nature, this market requires a robust regulatory monitoring mechanism to ensure competition dynamics are effective.	The TRA continually monitors retail markets. At this stage of market development, the TRA considers the markets would benefit more from the TRA's initiative to assess potential barriers to the further emergence of effective competition in retail fixed broadband and domestic connectivity services in the Kingdom. The Authority has engaged with all licensed operators and will consider if and what actions are required in the retail markets, that would be targeted and proportionate.
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