

# CONSULTATION: Spectrum Assignment for Advanced Broadband Services including 5G

## Requests for clarification from stakeholders (anonymised) and TRCSL responses

| No. | Chapter/<br>Text Box | Reference   | Stakeholder comment  | TRCSL response   |
|-----|----------------------|---|--|--|
| 1   | 1.1                  | “TRCSL will confirm receipt by email within two business days and publish the requests and its responses on its website <a href="http://www.trc.gov.lk">www.trc.gov.lk</a> .” – Page 4, line 15 | <p>We note that there is no specific timeframe defined for publishing TRCSL responses to the clarifications sought on the consultation paper.</p> <p>Response to the Consultation Paper may have a dependency on responses to the clarification requests submitted to TRCSL. Operators may not be able to prepare responses or submissions until the TRSL provides clarity on the raised issues.</p>   | TRCSL will publish the requests for clarification (RFC) and its responses as soon as possible. Some responses may require consultation within TRCSL. We encourage stakeholders to submit individual RFCs as soon as they arise.  |
| 2   | 1.3                  | “Deadline for requests for clarification regarding the Policy Paper: Friday 15 March 2024, 17:00” – Page 5, line 10   | <p>We note that there is no provision for consultation on the final spectrum policy paper.</p> <p>Considering that the spectrum policy paper will be regarded as the blueprint for spectrum allocation, pricing and assignment methodology, it is recommended to permit Operators to submit their comments and recommendations on the spectrum policy paper.</p> <p>We suggest the incorporation of a 2-3 week time frame for industry consultation.</p> | The Policy Paper (PP) will contain TRCSL’s decisions specifically regarding the upcoming spectrum assignment based on the stakeholder feedback received in the public consultation. As such, a second consultation would be repetitive. There will, however, be a formal written Q&A on the Spectrum Assignment process from 8-22 April 2024 (as per new timeline in the updated version of the CP dated 13 February 2024) in which stakeholders may request clarifications regarding the PP. This will be followed by Information sessions and ‘mock auctions’ (if auction is chosen as the assignment method) from 23 April to 3 May 2024. |

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|--------------|-----------------------|---|---|---|--|-----------------------|-------------------|------------------------|--------------------|---------|-----------|-----------|-----|-----|-------|-----------|-----------|-----|-----|--------|------------|------------|-----|-----|--------|-----------|-----------|-----|-----|--------------|------------|------------|------|------|
| 3            | 1.3                   | "Spectrum assignment: Week starting Monday 25 March 2024" - Page 5, line 11   | <p>If an auction is chosen as the applicable spectrum assignment method, it is our view that the TRCSL should facilitate one or two mock auctions well in advance of the final auction.</p> <p>We recommend provisions to be made for mock auctions within a period of 2 weeks from the date of publication of the final spectrum policy along with the applicable auction procedure.</p> | See response to item 3 above: Mock auctions (if auction is chosen as the assignment method) would be conducted from 23 April to 3 May 2024, following the PP Q&A process, shortly before the actual auction. We invite stakeholders to comment in their CP submissions as to whether they require more time.  |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |
| 4            | 2                     | "There may be some consolidation in the Sri Lankan telecom market with a pending proposal for a merger between DAP and Airtel, which combined would have a share of around 60% of the mobile market" - page 5, Line 30  | We seek clarifications on the formula/criteria used to calculate the said market share.   | <p>Subscriber market share. Latest TRCSL figures are:</p> <table border="1" data-bbox="1489 663 2033 863"> <thead> <tr> <th></th> <th>Mobile Broadband Subs</th> <th>Total Mobile Subs</th> <th>Mobile BB market share</th> <th>Total market share</th> </tr> </thead> <tbody> <tr> <td>Mobitel</td> <td>4,668,769</td> <td>7,096,763</td> <td>23%</td> <td>24%</td> </tr> <tr> <td>Hutch</td> <td>2,310,048</td> <td>3,573,739</td> <td>11%</td> <td>12%</td> </tr> <tr> <td>Dialog</td> <td>10,226,304</td> <td>14,807,236</td> <td>50%</td> <td>51%</td> </tr> <tr> <td>Airtel</td> <td>3,102,141</td> <td>3,508,623</td> <td>15%</td> <td>12%</td> </tr> <tr> <td>Total Mobile</td> <td>20,307,262</td> <td>28,986,361</td> <td>100%</td> <td>100%</td> </tr> </tbody> </table> |  | Mobile Broadband Subs | Total Mobile Subs | Mobile BB market share | Total market share | Mobitel | 4,668,769 | 7,096,763 | 23% | 24% | Hutch | 2,310,048 | 3,573,739 | 11% | 12% | Dialog | 10,226,304 | 14,807,236 | 50% | 51% | Airtel | 3,102,141 | 3,508,623 | 15% | 12% | Total Mobile | 20,307,262 | 28,986,361 | 100% | 100% |
|              | Mobile Broadband Subs | Total Mobile Subs   | Mobile BB market share  | Total market share  |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |
| Mobitel      | 4,668,769             | 7,096,763   | 23%   | 24%   |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |
| Hutch        | 2,310,048             | 3,573,739   | 11%   | 12%   |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |
| Dialog       | 10,226,304            | 14,807,236  | 50%   | 51%   |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |
| Airtel       | 3,102,141             | 3,508,623   | 15%   | 12%   |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |
| Total Mobile | 20,307,262            | 28,986,361  | 100%  | 100%  |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |
| 5            | 2, Q-1                | "TRCSL is inviting comments from stakeholders on the current market environment and the potential for a turnaround, their views of the current and future demand for 4G and 5G services (both fixed and mobile), and on the best way forward for the deployment of 5G services in the given market conditions, with a particular focus on the spectrum required, as further detailed in the following | We seek a clarification on the use of the phrase "potential for turnaround"   | "Turnaround" refers to a recovery of Sri Lanka's economy from the economic crisis and an improvement of the economic environment for telecom operators in particular, in terms of demand for 4G and 5G services, inflation reduction etc.   |  |                       |                   |                        |                    |         |           |           |     |     |       |           |           |     |     |        |            |            |     |     |        |           |           |     |     |              |            |            |      |      |

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|     |                      | chapters of this Consultation Paper.” – Page 6, line 1  |  |   |
| 6   | 3                    | “Low bands (below 1 GHz) such as 600, 700 and 800 MHz are important for operators to achieve wide-area 5G coverage in non-urban and rural areas which can be attached to spectrum licences as a condition” - Page 6, Line 6 | <p>There is no indication of a low band coverage commitment in the consultation paper.</p> <p>5G rollout obligations should be demand driven, in addition to minimum coverage obligation (2 base station per district). The remainder of the network rollout should be based on demand from enterprise customers and device penetration.</p> | <p>The quoted statement in chapter 3 is of a general nature, pointing out the fact that operators can achieve more area coverage with low bands compared to high bands, which is of particular benefit in non-urban and rural areas.</p> <p>The proposed rollout obligations in chapter 9 do not require certain degrees of area or population coverage, they only require minimum numbers of base stations providing commercial 5G services. Operators obtaining spectrum licences in the upcoming assignment could be given the option to meet their rollout obligations as per chapter 9 in rural districts by using either the newly obtained spectrum or other spectrum that they refarm for 5G use, which may include existing low-band holdings, in order to maximise the coverage of those base stations in rural areas. We invite stakeholder comments on this option.</p> |
| 7   | 3                    | “In addition, many network operators around the world are repurposing (“refarming”) their existing spectrum assignments below 3 GHz (such as 900, 1800 and 2600 MHz) from 2G and 3G   | It is our view that the 5G spectrum plan should include a path to refarm all other existing spectrum assigned to Mobile and Fixed Operators.   | Under current regulations, mobile and fixed operators in Sri Lanka can apply to TRCSL for the refarming of any spectrum they hold. In Q-4 in chapter 3.1 we are inviting suggestions from stakeholders for how the current process could be improved.   |

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|     |                      | use to 4G and 5G.” – Page 6, line 12   |  |  |
| 8   | 3.1                  | Fig. 3: Current spectrum holdings above 1 GHz  | Although Band 41 starts from 2496MHz the Consultation Paper refers to it as being between the range 2500MHz – 2690MHz. The additional 4MHz needs to [be] included.   | This is currently under consideration.   |
| 9   | 3.1                  | “Some telecom operators have criticized imbalances in the current spectrum holdings.” - Page 8, Line 1   | <p>We seek clarifications as to how the said 'imbalance' in spectrum allocation was determined i.e., what was the spectral efficiency measure used by the TRCSL in this regard.</p> <p>Spectrum is a scarce economic resource and should be allocated considering traffic and the number of subscribers to drive up the efficiency. Hz/sub or bps/Hz are the standard industry criteria use to arrive and efficient spectrum usage and allocation.</p> | TRCSL has not made a determination as to the severity of the imbalances, be it in terms of subscribers or bandwidth efficiency, or as to what measures should be taken to address them. In Q-2 in chapter 3.1 we are inviting comments and suggestions from stakeholders on this matter to guide our decision-making. Operators are also invited to state their current and future spectrum demand in the different bands. |
| 10  | 3.1                  | “DAP/DBN and Mobitel would also like to consolidate their holdings in the 1800, 2100 and 2300 MHz bands to create contiguous spectrum blocks which would increase spectrum efficiency.” – Page 8, Line 2                         | There should be overall harmonization in all spectrum bands, including fair and equitable allocation in the 850/900 MHz band.  | We agree and hereby invite stakeholders to include the 850 and 900 MHz bands in their proposals in response to Q-3 in chapter 3.1.   |
| 11  | 3.1, Q-2             | “TRCSL is inviting comments from stakeholders on imbalances in current spectrum assignments and proposals for how to address them. Operators are invited to state their current spectrum demand in the different bands and their | <p>We require a clarification on the method used to compare spectrum demand between operators.</p> <p>Comparison should be done considering the number of sites, MIMO configuration achieved, spectral efficiency and traffic demand.</p>  | At this stage we are simply asking operators to tell us what their current spectrum demand is in the different bands, whether they currently have shortages or surpluses, and their future projections in this regard. We will then compare these statements to determine in which bands there is excess demand, to guide our decision-making  |

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|     |                      | projections for the next ten years.” – Page 8  | <p>It is our belief that a clear and transparent criteria should be established to measure the effectiveness of the spectrum allocated to each operator. An equitable distribution can be thus effected to maximize the usage of a valuable economic resource.</p> <p>We recommend the use of the same model to estimate demand for each operator.</p> | regarding the appropriate assignment method and possible spectrum caps. Since all operators in principle have the opportunity to increase their spectral efficiency through measures such as MIMO and network densification, the primary criteria should be subscribers and traffic demand. |
| 12  | 3.1, Q-4             | <p>“TRCSL is inviting comments from stakeholders on broader regulatory reforms as mentioned above, how such reforms should be implemented, any risks associated with them and how those risks should be mitigated – including but not limited to:</p> <ul style="list-style-type: none"> <li>• Unified licensing</li> <li>• Spectrum refarming</li> <li>• Spectrum sharing</li> <li>• RAN sharing</li> <li>• Spectrum sub-leasing</li> <li>• Spectrum trading</li> </ul> | We seek a clarification as to the difference between spectrum sharing and RAN sharing.   | Spectrum can be shared without RAN sharing and take various forms. RAN sharing may or may not include the sharing of spectrum.  |
| 13  | 3.2                  | Lot 4 - Lot5 - Page 9, Fig 4, Offered Spectrum Lots  | <p>3.3-3.4 is not indicated although it is specified as Band n78.</p> <p>The necessary guard band, interworking arrangements and guidelines should be setup together with satellite operators in the 3625MHz –</p>   | <p>3.3-3.4 GHz is currently under consideration.</p> <p>The mentioned coordination issues above 3.6 GHz are the reason why this part of the band was not earmarked for licensing at this stage, as is the only limited demand for 5G that stakeholders have indicated at the kick-off</p>   |

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|     |                      |  | <p>3700MHz band before this block is awarded for auction.</p> <p>We seek clarity from the TRCSL as to whether the same is under consideration.</p>   | <p>workshop in July 2023. TRCSL is looking forward to discussing possible changes in demand, and the results of trials that operators are conducting above 3.6 GHz.</p>   |
| 14  | 3.2                  | Offered Spectrum Lots - Page 9 Lots  | We seek clarification from the TRCSL as to whether there should not be larger lots in the 27GHz spectrum band.   | <p>The allocation of additional mmWave spectrum is under consideration.</p> <p>As the CP points out in chapter 3.2, one reason for the initially only limited allocation is the limited demand for 5G that stakeholders have indicated at the kick-off workshop in July 2023. In Q-5 we are inviting comments and suggestions from stakeholders in this regard.</p> |
| 15  | 4                    | “The telecom operators in Sri Lanka have raised concerns that auctions may lead to inflated prices being paid for spectrum, which would adversely impact their ability to invest in network infrastructure” – Page 11, Line 16 | This generic statement may not hold true. We believe in transparent spectrum allocation and thus auctions may be the best form of spectrum allocation especially when demand is greater than supply. | Noted. We look forward to feedback from other stakeholders on this issue as well.   |
| 16  | 6.1                  | “Caps may be applied to spectrum of a particular type, e.g. sub-1GHz spectrum, and/or the total amount of spectrum a bidder can win in an auction.” – Page 13, line 31   | We seek clarification from the TRCSL as to whether the cap can be based on the percentage of spectrum held in one particular band.   | A percentage of spectrum held in one particular band can be one factor in the decision on spectrum caps, but holdings in other bands with similar characteristics may need to be taken into account as well.  |

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| 17  |                      | "7.2 Option #2: Administrative assignment to SWN" – Page 15, line 10   | <p>We wish to clarify that Malaysia may not be an appropriate example with reference to SWN considering that they are in the process of getting a second Operator.</p> <p>Moreover, we seek a clarification as to how the TRCSL plans to handle the aspects of competition and single point of failure/redundancy in a SWN.</p> | TRCSL is aware of the situation in Malaysia where the lack of infrastructure-based competition and redundancy led to calls for a second operator. As the CP points out, this is a Con for the SWN concept, but there are also significant Pros. In Q-11 and Q-12 we are inviting comments and proposal outlines for how these issues could best be balanced.  |
| 18  | 8                    | "2.6GHz Spectrum Assignment" – Page 16, line 16  | It is our view that the all spectrum bands should also be available for refarming.  | See response to Question no. 7 above. Under current regulations, operators in Sri Lanka can apply to TRCSL for the refarming of any spectrum they hold. TRCSL's role in the process is to ensure that basic services are not discontinued that a significant number of possibly underprivileged users still depend on, for example low-income owners of basic 2G feature phones. In Q-4 in chapter 3.1 we are inviting suggestions from stakeholders for how the current process could be improved. |
| 19  | 12.1                 | "Only telecom operators in possession of a mobile licence under Section 17 of the Sri Lanka Telecommunications Act will be eligible to participate in the spectrum assignment." – Page 18, line 14 | We seek a clarification as to how the TRCSL plans to handle Licensees who are in violation of spectrum licenses and have ongoing legal/regulatory actions? Do they get equal opportunity?   | See chapter 12.3: "Only telecom operators with no outstanding licence fees under Sections 17 and 22 of the Sri Lanka Telecommunications Act will be eligible to participate in the spectrum assignment". Other legal/regulatory actions will be considered on a case-by-case basis. We welcome feedback from stakeholders in this regard.   |
| 20  | 12.2                 | "Only companies operating a 4G mobile network in Sri Lanka will be eligible to participate in the  | We seek a clarification as to the status of fixed Operators in such a spectrum assignment. Can mobile Operators share their network with fixed  | Under current regulations, fixed and mobile operators are not allowed to share their networks. This issue is on the list of possible  |

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|     |                      | spectrum assignment.” - Page 18, line 16 | Operators? Can spectrum bids be submitted by a fixed operator independently or jointly with another mobile/fixed operator?                            | regulatory reforms that TRCSL is inviting stakeholder feedback on in Q-4 in chapter 3.1 of the CP. Considering the current market and regulatory environment, TRCSL has opened the upcoming spectrum assignment to mobile operators only, but we are welcoming feedback on this issue from both fixed and mobile operators and other stakeholders. |
| 21  |                      | Additional clarification sought          | We seek a clarification from the TRCSL on its position on Private 5G networks.  | TRCSL is aware of the Pros and Cons of setting aside spectrum for private/industrial 5G networks, and it is one consideration under Option #2 in chapter 7.2 of the CP. It is our intention to seek stakeholder input on this issue from a broad range of industries through Q-10 in chapter 6.2 to guide our regulatory decision-making.          |
| 22  |                      | Additional clarification sought          | We seek a clarification as to whether the TRCSL will mandate the sharing of and regulate the pricing of critical infrastructure such as fibre access. | TRCSL is currently considering regulatory options in this area, including infrastructure sharing and possible price regulation. A separate public consultation on competition issues is in progress (published on the TRCSL website) with a submission deadline of 26 February 2024.   |