TATA SKY COMMENTS DATED DECEMBER 18, 2019 TO TRAI'S CONSULTATION PAPER ON INTEROPERABILITY OF SET TOP BOXES DATED NOVEMBER 11, 2019

Q1. In view of the implications of non-interoperability, is it desirable to have interoperability of STBs? Please provide reasoning for your comment.

No, it is not desirable to have interoperable STBs for the commercial, technical, security and service-related reasons enumerated below:

❖ Interoperability will only be viable if a STB could be designed having a reasonable cost at the highest standards of quality without any detrimental impact on the security and privacy features of the STB. The current STB eco-system allows operators to provide a secure solution (HDCP/ Water-marking/Fingerprint etc.) at optimum cost. We have serious concerns about third party manufacturers, developers being able to maintain the same security standards in the interoperable STB.

❖ Due to entry of different operators at different points of time in the market, operators are using different compressions standards (e.g. MPEG2, MPEG4, HEVC and others).. Presence of multiple compression standards comes in the way of interoperability.

❖ The STB model, functionality, processor speed, memory, software configuration, encryption and transmission standards differ amongst operators and this will lead to serious compatibility issues if inter-operability is attempted.

❖ In fact, the Consultation paper itself agrees that there are no technological solutions available in the market today that can ensure interoperability ensuring smooth customer experience in terms of service, cost and ensuring that there are no compromise of security of Content for the Broadcasters and Distributors.

❖ The current eco-system allows the operators to innovate and compete with other operators. Operators are constantly upgrading their STBs with continuous innovations that are happening globally in STB silicon and software. Interoperability would not support the innovations even on standard features which includes EPG in multiple languages and interactive services.

❖ The interoperable STB would get outdated/ obsolete very soon as there would be requirement by operators to upgrade. Alternatively, the operator, would start getting stifled by the slow pace of upgrade.

❖ The process of BIS standardization of various STB features (which have been proprietary due to legacy reasons) would require significant cost and long gestation period of the standardization process. In the current scenario of the sector, with aggressive and unregulated competition coming in from OTT and Mobile Operators, this is not feasible.

❖ The subscriber will not be able to receive end-to-end servicing by his respective operator for STBs purchased from the open market.

❖ Also, the entry cost of getting a TV connection would increase on account of subsidies not being available in open market STBs. This cost increase is avoidable especially since the growth is coming from DAS3 and DAS4 markets.

❖ Distributors and Broadcasters will lose revenue in case there is a delay by the STB OEM in resolving any STB issue of a subscriber. Meanwhile the revenues of the STB OEM will not be impacted. Thus, subscribers will be inconvenienced rather than benefitted from STB interoperability.

❖ The DTH License was formulated in the early 2000s and the understanding of the Indian TV market was limited and hence, the STB interoperability condition was inserted as a desirable feature. However, the last 15 years have established that interoperability is not feasible. Hence,

we request the Regulator to recommend for an appropriate correction to the interoperability clause to match the actual ground situation.

❖ No such interoperable STB working model exists globally and hence the cost of experimenting in the Indian market will be prohibitive and would have to be ultimately borne by the subscriber.

Q2. Looking at the similar structure of STB in cable and DTH segment, with difference only in the channel modulation and frequency range, would it be desirable to have universal interoperability i.e. same STB to be usable on both DTH or Cable platform? Or should there be a policy/ regulation to implement interoperability only within a platform, i.e. within the DTH network and within the Cable TV segment? Please provide your comment with detailed justifications

❖ One of the key features of the 'New Regulatory Framework' was to do away with different regulations for different platforms and treat all DPOs equally.

❖ A recent response by the Hon'ble Minister MIB has revealed that the Cable market size is approximately 117 million thus making Cable the biggest platform.

❖ Therefore, while we maintain our stand (as mentioned in our response to Q1), if interoperability is still mandated then it should be across platforms – which should not just include Cable, DTH, HITS, IPTV but also for the DD Free Dish STBs, Mobile TV and OTT platforms.

Q3. Should interoperable STBs be made available through open market only to exploit benefits of commoditization of the device? Please elaborate.

❖ Open market STBs will be poorer in quality than the ones currently provided by the leading operators.

❖ The DD Free Dish STB is an open market STB and it is quite well known that the life of those STBs does not extend beyond a year.

❖ Tata Sky follows stringent hardware specifications and the manufacturing process adheres to high quality standards, providing customers a very high value product with an audited life expectancy of much more than 5 years. This is not possible through the open market at the costs that we are able to provide.

❖ The DPOs, currently, take full responsibility of the STB for the hardware as well as providing best of software features with regular software upgrades. In the open market situation, that responsibility will shift away from the operators thus leading to a broken experience for the subscribers.

❖ Any open market STB could be unreliable, have safety issues and also become obsolete as it cannot be upgraded for operational and security reason. Interoperability of STBs would mean changing the Conditional Access Systems (CAS), which have unique hardware elements. Having a common CAS will expose the DTH operators to possible security breach/threat in the event the system is hacked.

❖ On the other hand, DPOs may not want to continue to deal with STBs once the inter-operable STBs are available in the open market to avoid any unwanted liabilities and hence open market STBs may be the only option.

Q4. Do you think that introducing STB interoperability is absolutely necessary with a view to reduce environmental impact caused by e-waste generated by non-interoperability of STBs?

- ❖ It is our belief that open market STBs, on account of questionable quality standards, no eco-system for maintenance and support, and no plan for managing technology obsolescence, would lead to an increase in e-waste.
- ❖ Infact, if interoperability is mandated, the entire existing subscriber base may want to upgrade to the new STB thus giving a huge spike in the e-waste of the older STBs.
- ❖ The Consultation Paper fails to provide any solution for the millions of STBs which are currently being used by subscribers. This would result in loss of huge investments and would create e-waste.

Q5. Is non-interoperability of STBs proving to be a hindrance in perfect competition in distribution of broadcasting services? Give your comments with justification.

- ❖ There is no proven global model of interoperability available. It is anticipated that interoperable STBs would turn out to be a much more expensive proposition for the subscribers.
- ❖ Also, it is anticipated that the entry cost would increase on account of the current operatpr provided subsidies being phased out.
- ❖ Also, the interoperable STB would stifle individual operator's ability to innovate.
- ❖ Considering all the above points, we believe that competition would suffer on account of interoperability.

Q6. How interoperability of STBs can be implemented in Indian markets in view of the discussion in Chapter III? Are there any software-based solution(s) that can enable interoperability without compromising content security? If yes, please provide details.

- ❖ Please refer to our comments against Q1.

Q7. Please comment on the timelines for the development of eco-system to deploy interoperable STBs for your recommended/ suggested solution.

- ❖ For all the reasons enumerated in our previous responses, we believe that efforts towards the development of an interoperable eco-system would be a futile exercise.

Q8. Do you agree that software-based solutions to provide interoperability of STBs would be more efficient, reduce cost of STB, adaptable and easy to implement than the hardware-based solutions? If so, do you agree ETSI GS ECI 001 (01-06) standards can be adopted as an option for STB interoperability? Give your comments with reasons and justifications.

- ❖ Software-based solutions for interoperability will also be a non-starter.
- ❖ There will be additional incidences of costs due to implementation of complex end-to-end system, testing, multi-party involvement etc. The final STB cost could well be higher. The current proprietary STBs are carefully optimised by the DPOs to balance cost against functionality.
- ❖ Software-based solutions may not be easier to adapt or implement. Complexity is driven by the number of components in a system and the interfaces between them. The nature of the components (software or hardware) is a secondary concern.
- ❖ Security related to piracy is of utmost importance in this sector and cannot be compromised with implementation of such poorly tested options.

Q9. Given that most of the STB interoperability solutions become feasible through a common agency defined as Trusted Authority, please suggest the structure of the Trusted Authority. Should the trusted authority be an Industry led body or a statutory agency to carry out the mandate? Provide detailed comments/ suggestion on the certification procedure?

- ❖ The International Telecommunications Union ('ITU') Embedded Common Interface ('ECI') specifications define the functionality of an interoperable security solution. However, it does not define local policy such as Compliance and Robustness ('C&R') rules and also does not define the roles of a Trusted Authority (TA).
- ❖ Eco-systems wishing to deploy ECI technology must create a TA to manage all stakeholders including DPOs, STB manufacturers, SoC manufacturers and CAS vendors. This will require significant investments and hence would restrict the adoption of ECI and objectives may not be met.

Q 10. What precaution should be taken at planning stage to smoothly adopt solution for interoperability of STBs in Indian market? Do you envisage a need for trial run/pilot deployment? If so, kindly provide detailed comments.

- ❖ Firstly, there is need for further detailed R&D activity with all stakeholders of the STB ecosystem to arrive at any such solution. The solution exploration can only be progressed after ITU approval and one can expect to spend many years of R&D followed by in- field trials before a pilot launch can even be attempted. The technology is new, and the integration challenge is large and heavily cost sensitive for all stakeholders.
- ❖ Interoperability solutions like the ECI specifications have been in development for five years. This is a very long time in the TV industry and the specifications no longer reflect current best practice or market trends. ECI is complex and it will take years for ECI STBs to reach the market. By then, ECI will be increasingly irrelevant.

Q11. Interoperability is expected to commoditize STBs. Do you agree that introducing white label STB will create more competitions and enhance service offerings from operator? As such, in your opinion what cost reductions do you foresee by implementation of interoperability of STBs?

- ❖ Please refer to our comments against Q1.

Q.12 Is there any way by which interoperability of set-top box can be implemented for existing set top boxes also? Give your suggestions with justification including technical and commercial methodology?

- ❖ No, there is no practical solution available for implementing interoperability for existing STBs.
- ❖ Any such attempts will bleed the industry in terms of Capex investments, will lead to increased debts for the players and also lead to spike in e-waste.

Q13. Any other issues which you may like to raise related to interoperability of STBs.

- ❖ No further inputs

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