

Replies to TRAI Consultation paper on submarine cables Jan 15, 2022

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As the Founder of FLAG Telecom, I have had significant exposure to many of the issues listed in your paper not only in India but 16 other landing point countries on the cable route. My goal here is to provide views on how best to increase the ease of doing business for bringing in new submarine cables to India. I believe that the current laws have been quite restrictive and that has been the reason why many new submarine cables have not been able to land in India.

Submarine cable is a tough business to begin with. It is very capital-intensive, there are not too many potential customers at the wholesale level and is quite risky from a financial perspective with banks not looking favorably at financing such private cables. In that sense, it is the government's job to make sure that at least from a regulatory perspective, all potential unnecessary conditions and restrictions are withdrawn and that submarine cable owners are not forced to manipulate the system just to meet the government requirements as in the case of ILDO's claiming to own 100% of the cable landing in Indian waters.

I strongly suggest talking to the European regulators in particular the ones in Marseilles and Portugal (I can facilitate the dialog) where they have a single window of clearance for all submarine cables and that has created an extremely positive atmosphere by bringing in tens of new cables to land there and put Marseilles on the world map overnight as one of the most important hubs of submarine cables.

I also write a blog focused on the global submarine cable industry at www.opencables.com which is read by almost every carrier in the world. I suggest a good read of the blog to better understand global trends,

Q.1 What limitations are being posed by existing licensing and regulatory provisions for laying submarine cables and setting up of CLS in India? Please answer with the detailed justification for changes required, if any.

While it makes common sense and is a law in most countries that entities who land submarine cables must also own significant stake in those cables, today's problems have been caused by exactly those entities – the carriers – who have landed cables in their own CLS's and have built a moat around the CLS so that nobody else can either access the cable or if they can, it is prohibitively expensive to do so.

Hence in my opinion, GoI must take proactive steps to encourage new cables from landing in carrier-neutral CLS's with open meet-me rooms which can land multiple

cables and provide an open cables environment where multiple carriers can have free and fair access to the cables coming in. GoI must also reach out to the established carriers who own the legacy CLS's and encourage them to turn them in to similar open meet-me rooms.

To encourage this new environment which is the only way to bring in more cables, GoI should start providing up to \$5 million for each cable that lands in a carrier-neutral CLS with complete open meet-me room to all carriers. This could encourage some of the legacy carriers from landing their cables with carrier-neutral entities as opposed to doing it themselves in a closed environment.

Q.2 Which of the conditions, as stated in Para 2.10 be made applicable on the ILD licensee for applying permission /security clearance for laying and maintaining the submarine cable and setting up CLS in India? Please answer with the detailed justification.

I suggest the following steps to encourage the above:

- 1.) Lift all restrictions for CLS owners to have any ownership stakes in the cables they are landing. If this is not done, India will lose out on submarine cable investment by the OTTs who will never want to be regulated as carriers and will not apply for a license on their own behalf at any time.
- 2.) Remove all restrictions that force the CLS owners to own the Indian portion of the submarine cable. This legal manipulation just is not helpful in any way. GoI can still levy taxes on the Indian portion of the traffic but there is no need to force the OTTs and CLS operators in to strange business relationships that are not real.
- 3.) Encourage all future cables to land in third-party carrier-neutral CLS's with open meet-me rooms by giving up to \$5 million per cable landing.
- 4.) At the same time, discourage legacy operators from landing cables in their own closed loop CLS's by charging them a \$5 million fee if they do so. Those legacy operators can change their CLS's in to open meet-me roomss by following a string of government regulations and will not then have to pay the fine and can in fact make \$5 million from the government.
- 5.) Do not provide any SOPs to operators just to build CLS's. A CLS without a submarine cable is meaningless yet several States are offering SOPs to build the CLS's in the hope that cables will come there. It does not work that way. SOPs can be given after a cable in that CLS is operational.
- 6.) Cable owners should only notify GOI about their intention to build a new submarine cable. There should be no license required to build a new cable nor should there be a Landing Party. A cable owner should need an ILDO license only if

he wants to sell capacity on that cable inside the country. A private party will need an ILDO operator to terminate its traffic and such a partner can be changed at will.

Q.3 Would an undersea cable repair vessel owned by an Indian entity help overcome the issues related to delays in undersea cable maintenance? Please provide justification for your answer.

Yes of course it is mandatory to have an Indian-flag cables ship maintaining and laying submarine cables landing in India. Currently all of Indian cables are maintained by cables ships in Dubai and in Singapore. Fortunately, India has good relations with both countries as of now. If something changes in the future, India is severely exposed as it does not control its own destiny.

Q.4 If the answer to the above question is yes, then please suggest possible mechanisms along with detailed justification and financial viability analysis for implementing this proposal.

I have spent significant time over the last year identifying a ship in Europe that can be repurposed as an Indian cables ship.



This will be called the **CS OpenCables** and will have an Indian flag and will be based out of the Konkan region near Maharashtra providing a good geographical location to take care of all the existing and future cables coming in to India. I have also done a financial viability of the project and would request GoI to start discussions with me on the next steps. If any Indian government PSU can form a JV with me, this

cables ship can be repurposed and can start providing services in Indian waters in about a year.

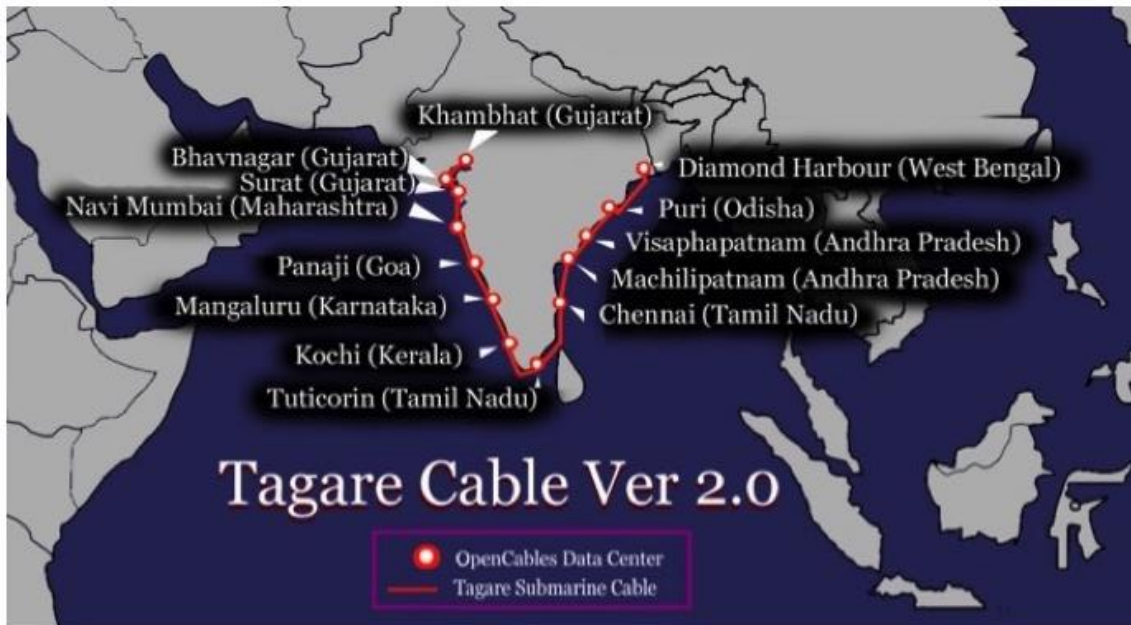
In addition to buying and operating a cables ship, I will also build a cable depot in India which will further save time for cable maintenance as the ship does not have to travel all the way to Dubai or Singapore to pick up the cables required for repair.

I will initially contract with a foreign operator to train Indian professionals in all operations of cable installation and maintenance and within a matter of 3 years, all of the personnel operating the cables ship and the cable depot will be Indian nationals.

Q.5 What measures should be undertaken for promoting Domestic submarine cables for connecting coastal cities in India? What limitations are being posed by existing licensing and regulatory provisions for laying domestic submarine cables in India? What are the changes required in the existing licensing and regulatory framework? Please answer in detail with the supporting document, if any.

There is a dire need for a submarine cable loop around India. I am proposing building the Tagare Cable along with 13 data centers all along the coast of India and landing in every State that has a shoreline.

While the Tagare Cable will initially cater to the domestic traffic, it will very quickly also connect to international destinations such as Bangladesh, Singapore, Oman, Dubai and so on. One such cable is envisioned for reference which I am working on.





While the names are different for now, the Namaste cable could very well just be an extension of the Tagare cable. Also the Tagare cable would be for the most part outside of the Indian EEZ. Regardless of this, the cable around India will carry a combination of domestic and international traffic. So instead of categorizing the cable as domestic or international, rules for the cable should be based on traffic flows rather than the physical cable. So traffic from Navi Mumbai to Kochi will be ruled by domestic cable rules (NLD license) whereas traffic from Kochi to Singapore will adhere by international rules (ILD license).

As the network grows, traffic from Salalah to Bangladesh should be categorized as international transit traffic even though it may use some of the domestic cable either on the Tagare cable or the landline domestic network within India and should not be subject to domestic tariffs for license requirements.

Q.6 Are any limitations being envisaged in respect of getting permissions and/or associated charges/ fee for laying domestic submarine cable and its Cable Landing Station? What are the suggested measures to overcome limitations, if any?

I strongly recommend establishment of a single window of clearance for all submarine cable projects whether they are domestic cables or international cables preferably a division formed by the TRAI or DoT. The goal of such a body is to make sure that all of the licenses and permits required to build a submarine cable should be in place within 6 months from the application date. It typically takes 7 years for a cable to go from concept to RFS (Ready For Service) and at least 2 years are required to get all the licenses. If this timeframe is reduced significantly, it will encourage private parties to invest in new cables.

Also, I strongly again recommend that a cable should not be designated as a domestic cable or an international cable based on its physical form but rather the regulations should be based on traffic flows.

This is especially important as a new concept is being developed by me called a Living Cable Network which means that the same cable established as Ver 1.0 can be modified by adding new segments to it for Ver 2.0 or Ver 2.5 and so on.

Q.7 Will it be beneficial to lay Stub-Cables in India? If yes, what should be the policy, licensing, and regulatory framework for laying, operationalizing, and maintaining the stub cable in India? Please answer in detail with the supporting documents, if any.

Yes certainly Stub-Cables are extremely important for further reducing the time required for a cable to go from Concept to Reality which will further encourage new investments in to India.

More importantly, taking in to account my new idea of a Living Cable Network, the Tagare cable can keep on growing as the business grows just by bringing new cable installation to the existing stubs. While this will be technically adding new cables, from a practical perspective, it could just organically grow the network similar to the domestic network where extension of any segment is not given a new cable name. It is just the Jio network or the Bharti Airtel network. Submarine cable owners should not be treated any different from domestic cable owners if they want to embrace the Living Cable Network idea.

Q.8 What challenges are being posed by existing telecom licensing and /or any other framework for establishing terrestrial connectivity between different CLSs in India? What are possible solutions to such challenges? Please support your answer with detailed justification.

In my opinion, there is only so much a regulator can do to encourage connectivity between different CLS's owned by different carriers if the carriers refuse to embrace such connectivity even if it is for the greater good. Financial considerations far outweigh any national interests. This is not just in India but in most other countries as well which is very well documented in my blog over the years. Examples of carriers refusing to connect their CLS's to each other are Etisalat and dU in the UAE and in majority of the CLS's owned by carriers in the US especially those owned by AT&T.

As long as the current situation persists in India viz-a-viz CLS ownership, I don't anticipate any change in ground reality no matter how many new regulations are forced on them.

That is the main reason I strongly believe that GoI should encourage new cables to land me a CLS which is a neutral third party and has an open meet-me room.

To avoid such a scenario, the Tagare Cable will be housed in a combo CLS and Data Center called OpenCables and all such 13 CLS/DC's will be connected using the Tagare Cable thereby guaranteeing connectivity between them and not being reliant on the domestic cables or by praying that the existing Indian carriers will change their mind regarding access to their CLS's. By definition, none of the Tagare CLS/DC's will have any RIO charges.

Q.9 In comparison with other leading countries, what further measures must be undertaken in India for promoting investment to bring submarine cable in India? Please answer in detail with the supporting documents, if any.

I have identified multiple issues that TRAI should take in to account in addition to my comments above:

1.) License to own and operate a submarine cable

Cable owners should only notify the Indian Govt their intention to build a new submarine cable. There should be no license required for anyone to build and operate one. A submarine cable should be defined as the cable all the way to the SLTE. The only time they would need an ILDO license would be if they want to sell the capacity within the country.

2.) License for private networks to terminate traffic in India

Private networks need to work with an Indian ILDO operator to terminate traffic within the country on terms agreed to between them.

3.) License for transit traffic

There should be no license or LIM required for any kind of transit traffic either through domestic landline cables or submarine cables for traffic that does not terminate in India.

4.) License for Cable Landing Station

Any data center operator with an ISP license should be allowed to build and operate a Cable Landing Station. There should be no requirement for a CLS operator to have an ILDO license. Basically a CLS owner should be treated like a real estate owner – no more no less.

5.) Ability to sell fiber pairs (dark as well as managed)

ILDO operators should be able to sell dark fibers to public and private networks and those networks should be allowed to use their own equipment (allowed by the GoI) to operate their networks. Private networks should not need a license whereas public networks should require a license. Please refer to the European regulations regarding this issue as it is the best in this regard and has enabled massive growth in traffic in Europe.

6.) No taxes on transit traffic and transit infra

In order to encourage India to become a global hub and a traffic transit country, there should be no Indian regulations or taxes imposed on transit traffic even if the traffic is flowing on domestic cables partially (submarine or landline)

7.) Taxes on sale of wholesale fiber pairs or capacity

A submarine cable owner should be allowed to sell capacity or fiber pairs to ILDO operators and charged only for 40 Nautical miles worth of the cable on a percentage basis of the total length of the cable.

8.) Single-window of clearance for submarine cable deals

GoI should create a single-window of clearance for all submarine cable permits and a requirement that such clearances will be given within 6 months of application. The Govt of Portugal is creating such a single-window clearance for submarine cables and it is willing to share their knowledge of the same with the GoI. GoI should create a portal where cable owners can register and monitor the developments of each permit. Also currently, application to certain permits is on a serial path and a lot of time is lost waiting for one permit to come through before applying for the next. It is recommended that a parallel path be followed for all permits in order to save time.

9.) Creation of a corridor where ships are not allowed to anchor

Look to Marseilles which has created a submarine cable-safe corridor where ships are not allowed to anchor. India should create multiple such corridors to encourage more cables coming through.

10.) Diversification of international POP's

The Tagare Cable envisages 13 International POP's instead of just two today (Mumbai and Chennai). An international cable coming in to any one of the 13 CLS's automatically gives the same status to the remaining POP's. This is absolutely critical not only from a security perspective (one cable cut near the Prabhadevi CLS cut Tata's entire connectivity to Europe) but also from the perspective of bringing high tech jobs and massive bandwidth to every state that has a shoreline. The Tagare cable will be the world's first Petabit cable bringing ultimate diversification and resiliency to India's shoreline states.

11.) Creation of a cable depot on either side of India along with India's own cableship

It is absolutely important to build a cable depot initially on the Western coast of India but within a few years on the Eastern coast as well. Creation of the cable depots along with the OpenCables cableship will create an Atmanirbhar Bharat for the submarine cable industry. All of the existing cables should be made part of the IMZ "Indian Maintenance Zone" with GoI taking a small stake in the entity to encourage FDI to come in.

12.) Taxation

a.) Retroactive tax policies will drive away every investor coming to India

b.) Changes in ownership structure at the parent level should not create a tax liability at the Indian entity level

c.) In order to encourage India to become a global hub and a traffic transit country, there should be no Indian regulations or taxes imposed on transit traffic even if the traffic is flowing on domestic cables partially (submarine or landline)

d.) A submarine cable should not be declared domestic or international. Taxation should be based on traffic ingress and egress points and not on the physical infrastructure of the cable

e.) There should be no requirement for a CLS owner to physically own the Indian portion of the cable. While the cable can be owned by a foreign entity, taxation should be based on the physical cable inside 40 nautical miles of India. GoI should not charge cables on the EEZ limit of 200 nautical miles.

f.) There should be no double taxation, The CLS owner should be charged only on the real estate income whereas the cable owner can be charged on the revenues of the cable if sold in the wholesale market to other ILDO's.

g.) A submarine cable owner should be allowed to sell capacity or fiber pairs on a wholesale basis to ILDO operators and charged only for 40 Nautical miles worth of the cable on a percentage basis of the total length of the cable.

h.) A company which owns both the data centers and cables should not be forced to pay telecom taxes (12%) on the entire revenue but only on the revenue generated from cable operations. This is critical as it will then encourage companies to invest in multiple businesses (like Tagare Cable and OpenCables data centers and cables) without worrying about having to pay unnecessary telecom taxes on all of the revenues. This can be achieved by forming various independent entities but I believe that synergies arising from everything to be under the same roof are extraordinary.

i.) Taxes should not be levied on the cable but on the business generated within India from that cable.

13.) Landing Party

The concept of a Landing Party should be taken out of the cable landing requirements. A cable owner should be able to choose his LIM provider or an ILDO operator to terminate his traffic and if things don't work out, should be able to change such provider.

14.) Egypt

The biggest impediment to India's rise as a global Internet hub is Egypt's onerous transit pricing for submarine cables. I can prove with exact numbers that it costs more to cross 200Km of Egyptian territory than the cost of the entire cable from India to Marseilles.

This puts India at a major disadvantage viz-a-viz the US and Europe when it comes to IP transit pricing.

It is very important that GoI take up this issue with the Egyptian government and request them to cut transit prices for all traffic terminating or transiting through India by 95%. Without such a drastic cut, India can never compete globally and will always be at a disadvantage.

GoI should use its political muscle by enforcing punitive measures against Egypt in trade issues such as exports of foodgrains or Defense equipment if Egypt does not reduce the atrocious bandwidth prices which is directly hurting India.

15.) AAE-1 vs other cables Branch issue

I was the Founder of the AAE-1 cable (originally called the Tagare cable). AAE-1 is the only cable touching India that has a unique ownership structure developed by me. In all other cables, the branch terminating in India is 100% owned by the Indian carrier. So they own 100% traffic on the branch even if they may own 5% of the traffic on the main cable. In AAE-1, the Indian carrier (Jio) owns the same amount of traffic on the branch as it owns on the main cable, thereby enabling other carriers to terminate traffic in India at any point in the future.

On all other cables, even if another Indian carrier bought capacity on the main cable, he is unable to terminate it in India as the landing carrier will not sell the branch capacity to him. This issue along with the CLS ownership of the carrier makes it impossible for anyone else to access the cable.

It is suggested that a law be enacted to bring all cables on the same rules as AAE-1 as it pertains to the Indian branch so that a lot of unused capacity is opened up. This can be done by requiring carriers to sell unused capacity on the branches to their competitors at cost price.

16.) RIO

RIO charges are really hurting the Indian telecom industry and should be brought down to Zero going forward at least on all new cables. The Tagare Cable will have Zero RIO charges.

17.) Oman, Djibouti, etc. taking advantage of Indian traffic and making money.

With a population of 4 million, Oman has the same number of cables as India does. Even an even smaller population, Djibouti also has approximately the same number of cables as India. In addition, UAE and Singapore also take advantage of India's current regulatory system and siphon away money not only in terms of bandwidth transit but more importantly as massive owners of data centers which should reside in India.

If the Indian laws are made submarine cable investor friendly, there is no need for these countries to siphon off business from India.

18.) Sensors and SMART cables

The Tagare Cable will be the world's first SMART cable which means that it will have sensors in the repeaters which will be used to monitor all kinds of ecological and climate-related changes at the bottom of the ocean. This cable will also have defense uses as it can monitor all incoming ships 24/7. This will create a robust big data enterprise with massive amounts of data generated, monitored and analyzed. It is suggested that all cables terminating in India should use SMART cable technology at least within Indian waters. It is suggested that GoI decree that all cables coming out of India should have sensors at least until the EEZ limits of India.

19.) LIM (Lawful Interception Monitoring) issues

The fine art of "Jugaad" is working quite well in this regard. Since the LIM equipment is very expensive, everyone is trying to game the system and consequently in some cables, only 2% of the total capacity coming in has LIM equipment dedicated to it. This is unfair to other ILDO operators who want to go by the book and insist on 100% LIM coverage and thereby do not get the business from private parties. In my opinion, if the only need for the LIM equipment is to monitor the VOIP on a cable, then it is a moot point as all of the capacity coming is data. I strongly suggest that the LIM requirement be removed to make it a fair playing field for all operators. If GoI insists on continuing with the LIM service, at a minimum it should be a competitive service and cable owners should be able to change their LIM provider. Also they should be able to work with multiple LIM operators if they choose to. Currently the Landing Party is automatically defined as their only LIM provider for 25 years and carriers are often at their mercy with no recourse to change them even in cases of abuse.

20.) Living Cable Network concept

All decisions taken by GoI should take in to account the possibility of a Living Cable Network as the Tagare cable intends to be and regulations should take in to account of that possibility. What could start out as a domestic cable will very quickly change to an international cable. If the rules do not allow that, then India will lose out on the next big thing that will take place in the submarine cable industry.

21.) Cabotage Issue

The biggest problem facing the Indian submarine cable industry is the treatment of installation and maintenance cables that come in to India from overseas. It seems that there is an unwritten Cabotage law in effect and these cables are always in violation of Indian laws especially with the customs department. One of the vendors whose cables was charged an atrocious customs duty has already stated it will no longer do business in India. Another vendor's cables were impounded for several months and Bharti Airtel had to bail out the ship by posting a bond worth tens of millions of dollars. This one issue has the potential of

completely destroying the Indian submarine cable industry. I strongly suggest that submarine cable repair and installation cables should be exempt from such Cabotage laws.

22.) Cables ship personnel

Similar to the issue above, cables ship personnel who are on these foreign cables ships are subjected to what is termed as harassment and takes long lead times to get their visas approved. At \$100,000 per day to run the cables ship, such delays are very costly ultimately to the cable owners. It takes weeks or sometimes months to repair cables in India due to all these regulatory and supply chain issues. It seems that the Egyptian law on cables ship personnel is quite good and GoI should study that carefully.

23.) Domestic cable vs International cable

Even though IAX/IEX are international cables, there will be traffic flowing from Chennai to Mumbai and vice versa. Other cables in the future including the Tagare Cable will also carry both domestic and international traffic. So it is wrong to describe a cable as domestic or international. Rather for taxation, licensing and other issues, the traffic flows on a cable and not the physical cable should determine whether it is domestic or international.

24.) Worst country in the world to do submarine cable business

India has been defined as the worst country in the world to do submarine cable business by multiple operators and foreign carriers due to all these issues. GoI should immediately bring about changes as described above before India becomes the pariah of the submarine cable industry.