

Consortium 2.0

New clues for facilitating submarine cable projects

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Presenter Profile

Well known figure in submarine cable industry since the 80's, M. LECLERC has designed and built some of the largest submarine cable systems ever deployed. With an initial experience as scientist & research engineer, followed by 20 years in projects development, Alain brings a combination of technical & commercial matters, diplomacy & negotiating skills.

One of Axiom's founders in 1999.



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Undersea Projects

Unique & Specific Development Activities

- Interconnect ***distinct*** national/regional markets with ***different*** commercial and admin regimes
 - ***various*** players, licensing and regulation rules, economic features & trends
- are “materially” comprised of parts with ***different*** legal regimes
 - the ***Territorial Part(s)*** with a local national jurisdiction
 - the ***International Part(s)*** with no applicable legal jurisdiction but the first-come-first-serve rule complemented by living together agreements with other seabed users

In the old days of Bilateral Telephony

- **Minimum** technical & legal interferences between 2 counterparts, i.e. carriers at the two opposing circuit ends
 - Each counterpart taking care of local admin authorizations & interconnection issues with local domestic network, and
- **Maximum** business interferences between counterparts at the two opposing circuit ends!
 - Circuit acquisition / provisioning to be jointly agreed by the two counterparts at both ends.
- ***2-circuit ownership or half-circuit concept***

During System Implementation

Engineering & commercial practices during design, procurement & construction periods mostly consisted in

- **Jointly** complying to technical requirements, including local requirements (safety, cable protection, local standards, etc.)
- **Jointly** relying on international conventions or recommendations such as ITU, UNCLOS and ICPC's wrt transmission features (e2e performance, interfaces), marine activities, etc.
- **Acting severally** when addressing any specific admin or commercial problems

Consortium

- As a result : no strong need to address potential disputes between parties (under any specific jurisdiction), cable developers have **historically** organized themselves in “specific” ways, such as consortia, a partnership arrangement almost unique in international trade.
- Even **today** despite changes in telecom business & regulatory environment, many modern international submarine cables are still often structured in consortia or close-equivalent. Only recently, ~less than 20 years ago, other models (carrier’s carrier mode, etc.) have become popular still replicating many aspects of consortium models.

Consortia & Others

The well-known separating line :

- ***Non-profit funding arrangement*** (informal consortium of users or non-profit-cable company) where capital expenditures' returns do not come directly from retailing capacity but from paid services provided by it.
- ***Profit-oriented funding arrangement*** through an ad hoc cable company, building, owning the infrastructure assets and retailing the capacity to users operating capacity as their main business.

Primitive Consortium Models

In modern telecom times (1950s-), when most ITEs were PTT admins or governmental bodies, non-profit funding arrangement was (almost) always preferred

- ITEs of the landing countries (Initial Terminal Parties, or ITPs) joined forces and cooperated together to develop the international subsea cable project up to the financial closing and to contract it to a selected supplier
- ITP's liabilities were several and not joint
- Each ITP was responsible to terminate cable in its landing country and interconnect it with its national network and beyond, as applicable.
- Each ITP was responsible to obtain the necessary authorizations and associated legal obligations from the relevant local authority

Primitive Consortium Models

Main Principles

Voice-telephony was the main telecom service, system capacity units were jointly owned and operated by the two opposite parties (“2-owned circuit” arrangement) with revenues balancing through international accounts

- Gold rule#1: capacity (half-)ownership was then **exactly** pro-rated to each ITP’s investment.
- Gold rule #2: any additional Party could buy IRUs from ITPs at **similar** conditions
- IRUs gave **almost** same benefits than full ownership, except that few key decisions re-infrastructure management were made by ITPs only (e.g. to refurbish it, to abandon it, etc.).
- Gold rules #1 and #2 provided a market-neutral system funding arrangement between Initial & Additional Parties.

From Primitive to Modern Consortium Model

Evolution of principles

In 70s and 80s, ***market-neutral*** rules were progressively replaced by ***market-oriented*** rules

- First, ITPs group was enlarged to accommodate other ITEs (non Terminal Parties) to better share the burden of the initial investment and mitigate risk
- Then gold rule #2 was broken: IRU purchasers were requested to compensate ITPs for their development & engineering efforts, advanced payments and risks; IRU prices were increased by topping up construction costs with additional fees, increasing over the years
- More recently (in the 90s), gold rule #1 was also broken and ITPs with larger investments were rewarded by volume discounts

From Primitive to Modern Consortium Model Management Evolution

- ***Decision by consensus:*** still a must for key decisions but commercial decisions are more and more based on simple or qualified majority rules
- While still not being a true contract, the C&MAs of modern consortia have progressively become more complex legal documents (60-80 pages) detailing internal consortium's rules, ITP's rights & obligations

The Modern Consortium

What changes for what Business Changes?

As well known facts, telecom market has changed over the last 15 years as a result of a few main evolutions

- ***Deregulation***: most national telecom markets moved from monopoly to (virtually) open competition amongst an increasing number of ITEs, addressing more categories of telecom services (fixed, mobile, IP, etc.).
- ***Shift from voice-telephony to IP-based services***, where voice-telephony is based on 2-party capacity ownership as opposed to IP services based on 1-party-capacity ownership
- ***Wrt to submarine cable design***: increasing role of BUs & DWDM technology that enable building ***huge capacity*** (~10Tbps per fibre pair) & multi-destination network

The Modern Consortium

A model facing growing difficulties

It has become more difficult to gather a minimum ITEs Core Group agreeing to partner in consortia

- Increased competition between ITEs, unsteady market sharing & uncertainties in long-term planning
- C&MAs are now inclusive of many business and market-oriented clauses and conditions with the main objectives to better define & protect interests and business plans of each member (branch vs trunk, etc.), not to mention IRU holders.
- Many national Telecom Regulating Authorities have expressed concerns complaining that consortia have shifted from ITEs open groups to close clubs preventing fair access to capacity especially to newly licensed ITEs

The Modern Consortium

A model facing new funding models

Alternative models have been developed in recent years to address the telecom market changes, such as

- the “**Limited Consortium Model**” of ITEs virtually (or sometimes really) organized as a SPV, Special Purpose Vehicle, as regards capital investment sharing
- the “**Carrier’s Carrier Model**” involving private equity providers (i.e. non ITEs) to substitute market funding to more and more shilly-shally ITEs as regards long term investment
- the “**Hybrid Model**” involving different genders of equity partners (i.e. ITEs, public or private funds, etc.).

What Changes for Consortium 2.0?

Need to better address changes from bilateral old telephony to Internet

- System cost allocation & circuit pricing, especially for multiple-destinations, i.e. multi-paths cable networks
- “Leveraging effect” due to old telephony (e.g. interests into a specific branch path are shared by all counterparts of branch country) resulting in spreading out costs
- Impact on definition of capacity pricing model, frequent in many consortia, e.g. ring-MIU, MIU.point, MIU.km, etc
- Capacity pricing model 100% relevant only when every cable system element is about equivalent to another one and/or the interest of the investor’s group is fairly diluted throughout the whole cable system.
- Is it still the case today?

Every System element not the same!

And does not cost the same

- Shallow water cable section does cost much more than deep waters
- Cost also depends on fibre pair count, on installation spec (burial, piping, etc.)
- Wet plant is a rather fixed part while terminal plant is subject to upgrades of its transmission and management elements
- Different roles of Branch- & Trunk-sections (collecting & carrying traffic streams); pay-load & usage cost may vary in huge proportions

ITE interest not the same!

Major change comes from the fact that modern networks are more “oriented” than old bilateral telephony

- As IP servers are not fairly distributed over the planet, each ITE/country is targeting one main traffic destination
- Traffic volumes increase when network takes you closer to one of the main targeted “destinations”
- In many areas, cable networks are frequently anchored in north hemisphere and traffic increases when travelling from south to north
- For east-west networks, compass may point out east or west directions or both!
- “Oriented” network topology can be optimized to “point out” the right direction, by adjusting the fibre pair count (or wavelengths)) from collapsed ring- to star-configurations

What new requirements for modern consortium?

- We feel there is a need, more than before, on agreeing on ***fair(er) investment sharing principles***
- Cost distribution throughout network should not be ignored anymore; circuit pricing be counted pro rata circuit length where length = sum of length of each carrying segments where length is not pro-rated geographical distance or cable length but construction cost
 - most expensive parts, e.g. laid in shallower waters with more armouring, more protection measures or with more fibre pairs will be “longer” and will then contribute more to the cost of the end-to-end circuit
 - trunk segment contribution will become relatively lower than access segments.

What new requirements for modern consortium?

- Initial circuit cost should be somewhat related to the number of active wavelengths in each carrying segment. More the count of active wavelengths in a segment, lower the contribution of that segment in the circuit “length”
 - During part of system life, number of active wavelengths in a segment could be considered as a parameter enabling the adjustment of the segment “length”
 - Fairer contribution of each segment in circuit cost, depending on local fill factor
 - Would largely cancel any cross-subsidizing effect of the heavily loaded parts of the system to the other ones.

What new requirements for modern consortium?

- Wet plant design in a more “oriented” way, to reflect the main traffic patterns in the short, medium and long terms and each party shall pay for its own path and not necessarily the whole carrying segment
 - That could lead to split system costs into two parts, the main paths in line with the network and demand orientations, and the other paths, if any, to be borne by the project as a whole, with distributed impact on the prices of all circuits
- Wet and terminal transmission plants shall be considered as different assets, with different ownership structures in order to ease further implementation and distribution of upgrade capacity

A Consortium model closer to co-build

Well-known main enablers for cable projects

- Market Opportunity
- Limited Infrastructure Competition
- Last but not least: good “understanding” between all market components on telecom infrastructure usage and planning, including incumbents and new providers in order to guarantee a fairly open access, prevent building parallel infrastructures, the usual result of frustration and lack of understanding.

The changes proposed to in the paper should get the modern consortium principles closer to those of a co-build partnership and improve the understanding between the parties and contribute to faster financing closing

SubOptic 2013 from ocean to cloud

Thank you!