

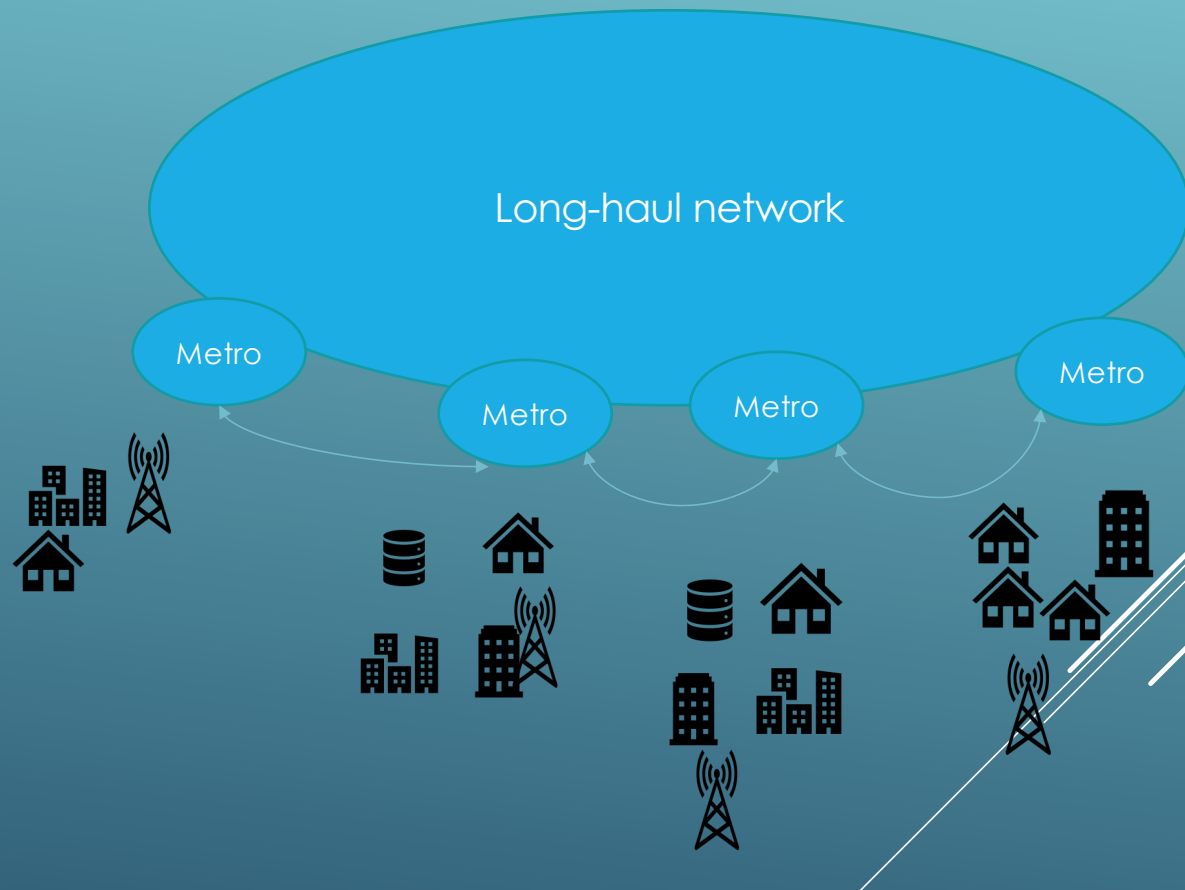
DELIVERING LARGE SCALE NETWORKS

by
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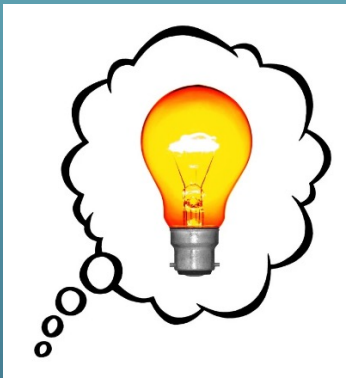


Long-haul backbone
networks could be:

- Facilitating connectivity
within country
- Country to country
- Submarine: continent to
continent



STRATEGY




Strategy definition:

1. Intense market study, needs assessment & feasibility study, SWOT
2. Scope definition: i.e. coverage area, technology, deployment, service delivery, Scalability & future-proofing
3. Over-arching objective of the project/Key deliverables
4. Financial planning: define project financing source, strategic partnerships, contractual swap arrangements, USF, etc
5. Stakeholder identification: SWOT e.g. financial muscle, Strategy, political alignments etc

STRATEGY

Strategic engagement

1. License/permit acquisition
 2. Stakeholder engagement: governments, utility providers, transport authorities e.g. road, maritime and environmental regulators etc
 3. Community engagement & contracting where applicable
 4. Construction partner(s) contracting: define scope, role in project deployment. Prefer a win-win scenario
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DEFINE THE HOW: OPERATIONAL

- ✓ Which project management methodology works best for the project?
- ✓ How will materials be produced and delivered?
- ✓ How will the deployment be done? Mechanically or Manually
- ✓ Do we build the tools or buy?
- ✓ What skills are needed on the team? welders, surveyors, civil engineers, structural engineers, architects, boat captains, locomotive drivers, plate layers, chefs, camp managers?
- ✓ Availability of local expertise/community engagement and buy into the project
- ✓ Need security e.g. military or police escort, navy clearance etc.
- ✓ Project milestones vs billing milestones vs material payment

GETTING TO WORK: BACKEND

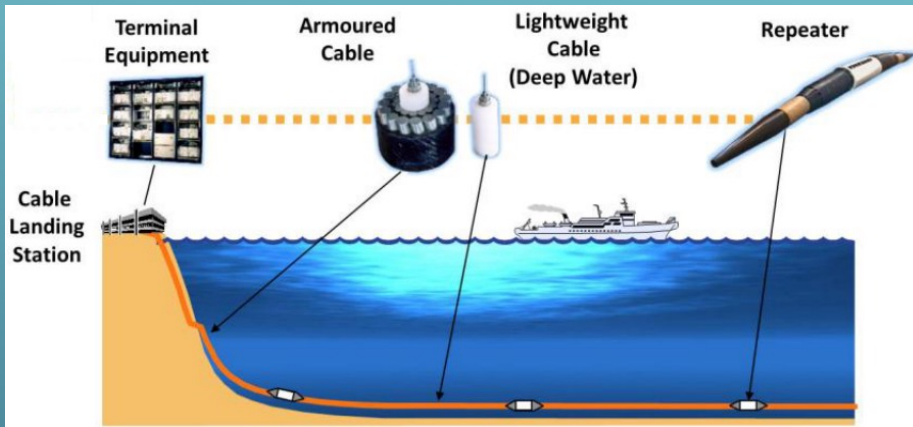
- Contracting: very clear and concise contracts with each stakeholder i.e. staff, suppliers, partners, service providers, equipment lease, utility providers etc. Could lead to liability and lost assets.
- Survey: Bathymetric tests, soil testing etc.
- Design project critical path and confirm feasibility.
- Permits & right of way applications
- Procurement initiation: Might need supplier visits for conformity. Must have an industry standard as a reference point. Each product must be tested for conformity by supplier & inspection bodies e.g. SGS, Bureau Veritas etc.
- Insurance procurement for materials, staff & equipment.
- HSE assessment and preparation

GETTING TO WORK: ON SITE

- ▶ Material delivery
- ▶ Team arrival & mobilization
- ▶ Stakeholder meetings: e.g. local community engagement, forest rangers, military, marine, Mayor & local government entities
- ▶ Permit verification
- ▶ Project kickoff
 - ▶ Implementation
 - ▶ Address teething issues e.g. equipment modification, enhance HSE
 - ▶ Scope change
 - ▶ Project reporting
 - ▶ Milestone reporting until completion

PROJECT COMMISSIONING AND HANDOVER

- ▶ Depending on the impact of the project and engaged stakeholder commissioning could be:
 - ▶ National commissioning
 - ▶ Community testing
 - ▶ Partner testing and signoff
 - ▶ Customer signoff and launch of their services. E.g. backbone equipment for an MNO that enables them to launch a network.



Source: <https://antakia.es/en/working-areas/submarine-cables/>



Submarine joint closure



Armored cable on the ocean floor

Source: <https://theweek.com/news/technology/955812/undersea-cables-connect-world-subject-concern>

UNDERGROUND DEPLOYMENTS: MECHANIZED



Source: <https://news.cision.com/finnfund/ir/finnfund-s-investment-in-digital-connectivity-dramatically-increases-access-to-internet-in-east-cen.c3395932>




Source: <https://www.bronxwt.com/cable-plow/>

UNDERGROUND DEPLOYMENTS: MECHANIZED



Source: <https://www.altec.com/products/digger-derricks>

KEY LESSONS

- ▶ Automate, mechanize...simplify the work
 - ▶ Risk management: Plan for the worst-case scenario. Intensify planning and risk management
 - ▶ Agility: Be ready to innovate as you implement the project
 - ▶ Co-exist with the environment around you: villagers, fishermen, wildlife and rangers etc. The deployment should never destabilize the environment or local communities
 - ▶ Document EVERYTHING
 - ▶ Stay hungry for knowledge
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Q & A

