Monenco Iran
Solutions on Realization of AP-IS

By: Vahid Veysi
Date: August 2018
Feasibility Study on South & South-West Subregion in Terms of Connectivity & Broadband

Subregional PMOs

Feasibility Study on Infrastructure Sharing Models

Monenco Related References

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Monenco Broadband & Connectivity Experience

Monenco Connectivity Design & Consultancy Experience at a Glance

• +40 Years National & International Experience and Expertise in Infrastructure Design & Consultancy

• More Than 22,000 Km Fiber Optic Network Design

• More Than 7 Million Nodes FTTx Design

• More Than 50 ICT Master Plans in Oil & Gas, Utility, Transportation and Telecom Industries
Feasibility Study in ESCAP SSWA subregion in terms of connectivity & broadband

Monenco based on its national & international experience and studies on connectivity & broadband suggests below steps to be conducted in South and South-West Asia:

1. Data gathering and identification of missing fiber links
2. Member states connectivity needs extraction
3. Market survey and fixed broadband benchmarking across the subregion
4. Investigation of domestic & trans-border interconnection in member states
5. Gap analysis and program, project & activity setting for connectivity gap filling
6. Short, mid & long term goal setting and KPI design for connectivity
7. Funding model development and absorption
8. Regulation, governance and project management
Feasibility Study on South & South-West Subregion in Terms of Connectivity & Broadband

Subregional PMOs

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Steering Groups (SGs) consisted of member states. Some member states doesn’t take part or play an active role in the AP-IS events.

“In 2018, there will be more sub-regional steering group meetings to discuss and address sub-regional issues. “ according to Matser Plan. But until now only North and Central Asia & pacific SG events can be seen in the ESCAP events.

Engaging local stakeholders especially infrastructure owners in the sub-region countries is necessary in order to accelerate AP-IS realization & implementation in sub-regions.

AP-IS projects/activities are multi-discipline and multi-country projects with different level of stakeholder requirements, multiple funding mechanism, and also maybe multiple implementers and working groups. Scope, cost, time & resource management isn’t simple in this projects.
What’s the solution?

- We propose to consider **Project Management Office (PMO)** in governance of AP-IS.
- Each Sub-region will have one local PMO. PMO can be selected from private sector.
- PMO standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques among other responsibilities.

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**Monenco Proposed Governance Structure for AP-IS**
What’s the solution? (cont’d)

- Each sub-regional PMO reports to four pillar leads.
- Complete management and supervising is assured.
- PMOs can share each other techniques, experiences and lesson learned.
Feasibility Study on South & South-West Subregion in Terms of Connectivity & Broadband

Subregional PMOs

Feasibility Study on Infrastructure Sharing Models

Monenco Related References

By: Vahid Veysi
Types of Infrastructure Sharing & Monenco Concentration

Infrastructure Sharing

Mobile
- Passive
- Active
- Roaming

Fixed
- Fiber Co-Deployment
- Transmission Sharing

By: Vahid Veysi
Telecommunication Infrastructure Company (TIC) is the sole provider of telecommunication infrastructure to all private and public operators in Iran. TIC is also the sole responsible party for all international gateways and IP capacity and connectivity services in the country.

- F.O. Network Length: +67,000 Km
- International Transit: 10,000 STM1
- Internet Bandwidth: 995 Gbps
- Intranet Bandwidth: 10,000 Gbps
- International Transit Goal: 30,000 Gbps
Infrastructure Sharing Players in Iran
Iran Railway F.O. & Transmission Network & International Transit Scheme

- Number of Stations: +500
- Transmission System: NG-SDH + OTN
- +9000 Km Railside Fiber Optic Cable
- 2,000*STM16 (5,000 Gbps)

Data Transport Network based on OTN
Infrastructure Sharing Model

By: Vahid Veysi
Infrastructure Sharing Players in Iran
Iran Utility Sector

- More Than 22,000 Km OPGW Fiber Optic Network (24 core)
- Transmission Technology: NG-SDH
- 12 cores from 24 cores are devoted for international transit in an infrastructure sharing model with Aria Cell Co.
- Monenco Iran conducted more than 100 projects in water & utility sector include telecom master plans, F.O. network design & infrastructure sharing consultancy
Infrastructure Sharing Players in Iran
Monenco Study on FTTH Co-Deployment through Utility Sector

Utility NetCo
Utilities deploying fiber networks can operate as neutral wholesale providers for passive (GPON) or active (bitstream) services. Also they can play as an independent telecom operator (NetCo).

Long-Term Investment
Utilities might be ready to accept payback time frames of more than five years. Therefore they can cover areas of market failure where telecom operators are reluctant to invest.

Save CAPEX
Based on Monenco Iran studies, aerial FTTH deployment through utility sector, saves up to 70% CAPEX rather than underground FTTH deployment through telecom operators.

Faster Deployment
Utilities can solve issues related to rights of way and civil works, because they have access to public areas, even in densely populated cities.

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Infrastructure Sharing Players in Iran
Iran Trans-border and Submarine Infrastructures

TAE
Flag/Falcon
EPEG

Asian Highway
Trans-Asian Railway
Submarine
Infrastructure Sharing Players in Iran
Monenco has conducted fiber & transmission projects in all four main infrastructure related Industries
Feasibility Study on Infrastructure Sharing Models for SSWA Countries

Monenco based on its deep experience and studies on Infrastructure sharing and fiber co-deployment in all key stakeholders in Iran suggests below steps to be conducted in South and South-West Asia:

1. Data gathering and recognition
2. Stakeholder requirements & potentials identification
3. Market overview and PESTEL analysis
4. Fiber & transmission asset extraction from all players
5. Short, mid & long term goal setting & KPI design for infrastructure sharing projects

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Feasibility Study on Infrastructure Sharing Models for SSWA Countries (cont’d)

- Asset evaluation model development
- Scenario planning and optimal scenario choosing
- Infrastructure sharing high level design (HLD)
- Business model and roadmap design for infrastructure sharing
- Financial/pricing model development based on defined asset evaluation model
- Regulatory/governance model development
- Action plan design and project management

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Monenco Management & Quality Assurance Certificates

- ISO/TS 29001:2010
- HSE- MS Certificates
- Iranian National Productivity & Excellence Award
- Consulting Services Qualification Certificate
- Management System ISO 18001: 2007
- Environmental Management System ISO 14001: 2004
Monenco Broadband & Connectivity Experience
IranianNet (Iran First Broadband Operator) Megaproject

NBN FTTx
National Broadband Network
Monenco Broadband & Connectivity Experience
IranianNet (Iran First Broadband Operator) Megaproject (cont’d)

6.8 Million Ports

Service & Content Delivery

Iranian Net

31 Provinces

Regulatory License

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Monenco Broadband & Connectivity Experience
IranianNet (Iran First Broadband Operator) Megaproject (cont’d)

Project Scope:
1. Market study and competitor analyze included Comprehensive Data Gathering (Residential/SME/HQ/Mobile/ISP/…)

2. Strategy planning (Where/When and How Iranian net to go?)

3. Technical High Level Design (ODN and Core Layer)

4. Capex of network is extracted as Cost input for Business Plan

5. Business Plan Based On Different Scenario

6. Technical Low Level Design

7. RFP preparation
Geographical Data Gathering

- Customer segmentation
- Preparing check list for data gathering
- Team setting for whole country survey and data gathering
- Data validation based on international statistical standards
Faesibility Study of Market Strategy

- Set up interview with telecom main role player
- Internal and International fix broadband network benchmarking
- Market survey
- Competitor analysis
- Market strategy development & market segmentation
FTTx Network Design

- Design Rule generation.
- Network Protection method
- Core layer design (active equipment and network architecture)
- Metro layer design (pop site connection and network architecture)
- ODN (optical distribution network) planning
- FTTx Network Design
Business Plan & Financial Analysis

- Cost and revenue profile determination
- Financial parameter extraction
- Sensitivity analysis
- Business model definition
- Business plan preparation

Sensitivity Analysis of Scenario 1. shows highest sensitivities mainly on Retail ARPU and Technical CAPEX.
Monenco Connectivity Experience
Realization of Telecom Architecture through PAEW Service Area

Client: Public Authority for Electricity & Water (PAEW) in Oman

The client intended to expand the telecom network due to the expansion of its water network and connect many of the new stations through the fiber optic and active equipment to the PAEW main telecom network of the country.
Monenco Connectivity Experience
Realization of Telecom Architecture through PAEW Service Area (cont’d)

Project scope:

• Gap analysis report & missing fiber links identification
• Design report for establishing a manageable telecom system using the existing F.O. cables
• Proposal report for the closing the gaps in terms of connectivity
• Recommendations for the implementation of cyber security and IP addressing scheme.
• Methodology for the implementation & financial analysis

• Iran ICT Ministry awards Monenco as first rank company in export of knowledge-based products because of PAEW project.
Monenco Infrastructure Experience Consultancy Services for Upgrading Intercity & International Voice Switching Network

Client: Telecommunication Infrastructure Company (TIC)
Updating and improving the voice, data & video communication network between operators and also in intercity & international layer based on the IP-based Solutions.

- Data Gathering
- Traffic Volume Analysis
- TDM to IP Migration Benchmarking
- Solution Analysis (NGN, IMS, NFV, IPX, RPS ...)
- Pilot Network Design
- RFP Design
Client: Telecommunication Infrastructure Company (TIC)

This project focuses on designing a submarine fiber optic cable system connecting mainland to Kish island.

- Data Gathering
- Desktop Study
- Prelay Study and Route Finalizing
- Shore Pulling, Cable Laying & Crossing, Subsea Jointing Operation Methodology
- Inspection & Test Methodology
- Cable Protection Design
- RFP Design
Client: Iran Railway Company

The primary aim of this project is to develop the fiber optic infrastructure, transmission network, PABX systems, Data switch equipment and finally radio trunk network for special task in railway industry. This company after TIC (Telecommunication Infrastructure Company) has the greatest fiber optic network in Iran.

- Current Network Status Analysis
- Defining Vision, Strategy and Targets
- Preparation of Road Map & SWOT Matrix Analysis
- Prioritize the Actions based on Technical and Financial Issues
- Active & Passive Transmission Network Design
- Infrastructure Sharing Consultancy
- Active/Passive Asset Evaluation
- RFP Design
Thank You for Your Attention!
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