**PAKISTAN TELECOMMUNICATION COMPANY LIMITED
HEADQUARTERS, G-8/4, ISLAMABAD**

DATE: 21st May, 2020

REQUEST FOR INFORMATION (RFI)

FOR

FTTH DEPLOYMENT

**(Survey, Design, ODN Material, ROW & Deployment Services of
OSP/ODN Network)**

⊙ptcl

PAKISTAN TELECOMMUNICATION COMPANY LTD.
HEADQUARTERS, G-8/4, ISLAMABAD

REQUEST FOR INFORMATION (RFI)

Dated: 21st May, 2020

SUBJECT: FTTH DEPLOYMENT (SURVEY, DESIGN, ODN MATERIAL, ROW & DEPLOYMENT SERVICES OF OSP/ODN NETWORK)

1. PTCL intends to invite vendors to share information & recommendations pertaining to RFI TOR in light of their strengths and capabilities to finalize FTTH roll out.

2. Soft copies of proposal/solution shall be submitted in the office of undersigned as per instructions provided in RFI document on or before **12:00 Hours on 12th June, 2020.**

3. Due to prevailing lockdown situation in the country, it is not possible for bidders to submit the physical bids (hardcopies). You are required to submits your bids as per following instructions:

    Submit password protected proposal in excel/word or pdf format to GM Procurement (B.S) only through email i.e. Syed.Mohsin@ptcl.net.pk before the deadline.

    Note: You are required to inform if you are not participating in tender and No bid will be accepted after the bid submission deadline

4. PTCL reserves the right to reject bids/solution and to annul the RFI process at any time, without thereby incurring any liability to the affected bidder or any obligations to inform the affected bidder of the grounds for PTCL action.

5. Bidder must mention their Bidder Registration code on offer. In case Bidder is not registered, then registration must be done before the issuance of Letter of Award/Intent. Bidder Registration form can be downloaded from PTCL website: https://www.ptcl.com.pk/Info/Vendor-Registration-Form

6. All correspondence on the subject may be addressed to the undersigned and Bids shall be submitted on the address given below.

GM Procurement (Business Support)
Room # 18, 4th Floor, Old Building
PTCL Headquarters, G-8/4, Islamabad
Phone: 051-2283056 & 051-2283462
Email: syed.mohsin@ptcl.net.pk

Request for Information (RFI)
FTTH Deployment
(Survey, Design, ODN Material, ROW & Deployment Services of OSP/ODN Network)

Pakistan Telecommunication Company Limited (PTCL), is the largest ICT service provider in the country and planning a large scale FTTH roll out which may involve following scope:

- ✓ Survey & design of ODN network,
- ✓ Supply of ODN material (excluding OF cable &, duct/pipe being provided by PTCL)
- ✓ Deployment of designed OSP/ODN network by taking ROW from involved agencies

1. RFI Objective:

PTCL is issuing this request for information to invite vendors to share information & recommendations pertaining to RFI TOR in light of their strengths and capabilities to finalize FTTH roll out.

2. RFI: Term of Reference (TOR)

1. Large scale FTTH/GPON roll out in terms of futuristic strategy, best price & speedy deployment
2. Survey & Design of FTTH Network (Underground/Aerial)
3. Supply of ODN material for underground/aerial
4. Tools & Machinery for speedy and quality deployment of Network
5. Services for deployment of FTTH network (feeder, distribution and drop)
6. Facilitation services for arrangement of ROW
7. Services for laying of drop portion
8. Quality assurance mechanism/guidelines for deployment & operation of network
9. Eco-systems development (Tools, Techniques, SOPs, Guidelines etc.)
10. Services for O&M of FTTH network if outsource by PTCL

3. Purpose of RFI Document:

The purpose of this document is to gather recommendations/information from prospective vendors to finalize FTTH roll out requirement and PTCL is not obliged at all to award work to any participating vendor as a result of this RFI:

- ✓ Gather comprehensive recommendations and specifications for proper FTTH roll out
- ✓ Finalize RFP requirement,
- ✓ Assess Eco-system improvement and new development requirement,
- ✓ Assess survey & design capabilities
- ✓ Assess vendor deployment capabilities
- ✓ Gather comprehensive recommendation on Quality assurance mechanism/guidelines for deployment & operation of network
- ✓ Gather information in response to TOR
- ✓ Gather information from response of raised questions.

4. Questions for confirmation/recommendations/suggestions:

Based on international best practices of planning, deployment and O&M, the vendors have to share experience and confirm /recommend/suggest the following with rational/justification:

Feeder Network Part:

1. What is recommended feeder duct/pipe 4" 1Way or 2" 2Way or some other option? (PTCL is thinking to use 4" 1W)?
2. What is recommended feeder OF cable in case of underground deployment (Armored or unarmored)? (PTCL is thinking to use armored one)?
3. What is the recommended OF cable loop in different location manhole/hand hole?
4. What is the recommended OF cable type in case of Aerial feeder deployment?
5. What is recommended location to keep loop in case of aerial feeder deployment?
6. What is recommended OF cable loop in case of aerial feeder deployment?
7. What is recommendation regarding feeder and distribution common duct for use?
8. What are recommended manhole sizes and specifications to be used? (PTCL Manhole size & specification attached)
9. Which type of Manhole/Hand hole is recommended for use (Prefabricated or constructed at site)?
10. What is recommended Feeder depth considering cost factor without compromising on quality 4'/3'?
11. What is recommendation for use of Marking Post?
12. Is it recommended to use marking post (especially in city area fiber route section)?
13. Is RFID enabled marking post are available?
14. How many types of tools are available for feeder rout identification?
15. Which tools are recommended for O&M use?
16. What is recommendation for HH placement in case of road crossing and road turning?
17. How many soil types encountered in your deployment experience?

Distribution Network Part:

18. What is recommended distribution duct/pipe (2" 2Way or some other option)?
    (PTCL is thinking to use 2" 1W)
19. What is recommended distribution OF cable type and cable counts in case of underground deployment (Armored or unarmored)? (PTCL is thinking to use armored one)
20. What is the recommended OF cable type and cable count in case of Aerial distribution deployment?
21. What is recommendation regarding distribution and drop common trench for use?
22. What are recommended sizes and specifications of manhole/hand hole to be used in distribution network?
23. Which type of Manhole/Hand hole is recommended (Prefabricated or constructed at site) for use in distribution network?
24. What is recommended OF cable depth without compromising on quality (3'/or) for distribution network?
25. What is recommendation for use of Marking Post in distribution network?
26. Is it recommended to use marking post (especially in city area fiber route section)?
27. Is RFID enabled marking post are available and recommended to use?
28. What is recommendation for HH placement in case of road crossing and road turning in distribution network?
29. Is it recommended to use NAP in distribution MH/HH?
30. What are the recommendations to lay fiber in distribution network?
    a. On one side of the road
    b. On both sides of the road
31. What is recommendation to serve number of houses per NAP (minimum/maximum)?
32. Is it recommended to use distribution joint for drop purposes?
33. What are recommendations for aerial distribution network in terms of following?
    a. Pole
    b. Pole Height
    c. Inter poles distance/sag between the poles
    d. Street crossing height
    e. Aerial Accessories material and standard
    f. Aerial deployment

Drop Network Part:

34. What are recommended NAP sizes?
35. Is it recommended to keep drop cable termination at house wall?
36. What is recommendation to serve No of houses per NAP w.r.t plot sizes?
37. What are recommendations to plan & use the following for drop laying?
    a. UG NAP in which areas
    b. NAP at Pole in which area
    c. NAP at wall in which area
38. What is the recommendation for maximum drop cable length for UG and aerial drop?
39. What is recommendation for drop trench in case of UG?
40. What is the recommended drop height to maintain in case of aerial deployment?

High rise building and commercial building (Planned and unplanned):

41. What are recommendations to fiberize high rise building (planned and have riser)?
42. What are recommendations to fiberize high rise building (unplanned and without riser)?
43. What are recommendations to fiberize commercial building (planned and have riser)?
44. What are recommendations to fiberize commercial building (unplanned and without riser)?

Survey & Design:

45. What design capabilities are available with you (Automated & manual design capabilities)?
46. How many areas base maps are available with you based on earlier design experience?
47. Which tools are available with you to carry out survey and design for ODN/OSP HLD & LLD?
48. What is capability of your automatic planning tool in terms of following?
    a. No of lines /day for HLD
    b. No of lines/day for LLD
49. What is recommendation for tenancy ratio consideration for residential and commercial area for design?
50. What is the maximum time required (in no of days) to survey and design for following scenarios?
    a. 1000 to 2000 Plots area
    b. 2000 to 5000 Plots area
    c. 5000 to 10000 Plots area
    d. 10000 to 20000 Plots area
    e. 20000 to 25000 Plots area

51. What is the recommended survey checklist to be considered?
52. What is best format for survey, design and use (GIS/PDF/AutoCAD/or other types)?
53. What is recommendation and availability status for digital platform to support visible delivery progress such as survey progress, design, ROW acquirement, implementation, acceptance etc to improve roll out efficiency.
54. Share customer reference for whom survey and design activity is carried out?
55. What is the designed experience for maximum plots area?
56. What is suggestion/recommendation for the following option?
    a. To go deep and use small capacity FDH
    b. Remain at boundary and use high capacity FDH
57. What are recommendations to choose FDH boundary based on practical experience?
58. What are most suitable ODN components with detail to consider for design & implementation?

Material: ODN Components for UG/Aerial network deployment

59. **ODF:** What is recommended to consider ODF with connector type (SC/APC or other type)?
60. **FDH:** What are recommended FDH types and various sizes to be considered?
61. **NAP:** What are recommended NAP types and sizes to be considered?
62. **FAT:** What are recommended FAT types and sizes to be considered?

63. **Joint Enclosures:** What are recommended JEs for feeder, distribution sections (Straight, dome type, etc.)?
64. **Local manufacturing capabilities/material**: Which ODN material's local manufacturing capabilities are available?
65. **QR Code support:** What are recommendations for Digital ODN management and components support for QR code?
66. **Digital ODN management:** Which ODN components with QR support available to use for digital ODN management?
67. **Quick ODN pre-connector material:** What are recommendation and detail for use of quick ODN pre-connector material?
68. **Optical Fiber cable:** What are recommended OFC cable type for feeder, distribution and drop?
69. **Aerial deployment ODN components & Accessories:** What are recommended ODN components and accessories for aerial network deployment?

Tools and Machinery for speedy deployment /roll out:

Share list of tools & machinery available with you for survey, design, inventory management and speedy deployment?

Operation & maintenance Model if outsourced

70. What are your recommendations for O&M model if PTCL outsources O&M activity of FTTH network (feeder, distribution and drop section)?
71. Share budgetary quote for various services for yearly O&M Model if outsource services to you?

Eco-systems development & readiness for FTTH Roll out (Tools, Techniques, SOPs, Guidelines etc.):

72. What are your recommendations for development of proper eco-systems for FTTH roll out?
73. What are recommended systems to be considered for proper FTTH roll out?
74. What are recommended SOPs & Guidelines to be considered for FTTH roll out?
75. What are recommended Tools/Techniques to consider/develop/arrange for readiness?

Quality assurance mechanism/guidelines for deployment & operation of network

76. What are recommendations regarding quality assurance mechanism/guidelines for deployment & operation of network.

5. PTCL RESERVED RIGHTS:

1. PTCL reserves the rights to make any changes to the specifications at any time without any prior notice.
2. PTCL does not guarantee that the requirements, standards, regulations, and/or conditions stated in this document of specifications are not covered / protected by copyright or patent of a third party.
3. PTCL has the rights to accept or reject the offered proposals/ recommendations/ suggestions without any notice or explanation.
4. PTCL is not obliged to award any work to the participating vendors as a result of this RFI. Formal RFP shall be floated for award of works in future.

6. RESPONSES:

1. Interested parties are encouraged to submit an electronic response to this RFI as per TOR. The response may be in Ms Word, Ms Excel, Ms Power Point, PDF etc. formats. The final response or any queries are to be emailed to Syed.Mohsin@ptcl.net.pk
2. The response must cover detailed description of the product(s), services and capabilities available as per TOR
3. Detail answer to requested questions should be in the response.
4. Representative/budgetary cost estimates for solution and services wherever involved should also be mentioned in the response.

5. Any additional information, details and value you may be able to add tin response to this RFI document shall be appreciated.

7. Note:

1. This is Request for Information (RFI) giving vendors an opportunity to inform PTCL of the current capabilities they can provide as well as available in the general market.
2. This is not a Request for Proposal (RFP).
3. No contract/ PO will be awarded based on the responses to this RFI received.
4. PTCL may or may not choose to incorporate information gathered through this RFI into possible future requirements.
5. The intent of the RFI is to gather information; it is not a formal procurement. However, a formal procurement action may result from this information-gathering process.

S.No	Items	Item Detail	Vendor Response
		Vendor Questionnaire	
1	**Survey & ODN Design**	Kindly mention detail of survey Teams & tools used for the project?	
		Kindly provide detail ODN Design tool and also mention it will be Automated or Manual?	
		Kindly provide Base Map Construction Capabilities?	
		Kindly provide detail of Localities Maps Availability?	
2	**Tools & Machinery**	Earth Moving Machinery	
	Note: Provide detail of these tools & Machinery. Also mention if these tools or machinery is either owned or will be acquired in future on project award	Boring Machine & Procedure	
		Road Cutters	
		Tools & Machinery Own/Rented, Time required for acquisition if will procured or rented in future	
		Splicing Machines	
		OTDR	
		Other tools(Power,etc)	
3	**HR**	Project Management staff	
	Note: Kindly mention staff only on payroll. Also mention average experience and average time with your organization of the staff. Kindly also mention if staff is dedicated for Fiber projects or shared	Certified Work Force on board	
		Hired Staff List with location	
		Project Management and organization hierarchy	
4	**Project/Activity Experience**	No. of year experience and list of major projects	
		No. of years experience in Fiber Projects and list of major projects.	

| | | Experience for Project management (No. of years and list of major projects) | |
| | | Experience of Survey & design of FTTH network | |