



Request for Information

MAFAB Communications Nig. LTD

5G Network Deployment

1 March 2022



1. PREFACE

MAFAB Communications Nig. LTD (Mafab) was incorporated on the 8th of July 2020 as a subsidiary of Althani Group, and licensed by the Nigerian Telecommunications commission to provide and operate Local Interconnect and International carrier services, operating under an Interconnect Exchange and an International Data Access license.

Mafab won a 5G license, with 100MHz of TDD spectrum in band n78 (occupying 3700MHz – 3800MHz), by the Nigeria Communications Commission (NCC) in December 2021. Mafab intends to deploy a 5G network and offer 5G services in Nigeria under this license.

This document is a Request for Information (RFI) associated with the (i) Supply, (ii) Deployment and (iii) Operations of the intended Mafab 5G network.

Note that the Deployment plan is at an indicative stage currently and is subject of change. Additionally, the set of services that Mafab intends to offer the market under the 5G license is also indicative at this stage. In addition to responding to the inputs given in this RFI, respondents are free to suggest alternatives based on their learning and experience

The RFI responses will be one basis for inviting vendors to then participate in an upcoming Request for Proposals (RFP) which will be conducted at a later date. Responses to the RFI will thus be one criteria used to invite companies in that next round as an indication of material interest in developing a more detailed proposal at that point in time.

Mafab is seeking qualified vendors (“Suppliers”) capable of providing a 5G network on a turnkey basis. The Scope of Work to be performed will include Design, Supply, and Deployment of the network, and potentially Operations (under an Outsourcing and/or Managed Services arrangement).

Please review this RFI carefully and use the response format provided. Please take note of the requested response date in the KEY DATES section. This RFI does not constitute a commitment, implied or otherwise, that Mafab will take procurement action in this matter. Mafab will not be responsible for any costs incurred in responding to this RFI. For answers to any queries or for further clarification, please do not hesitate to the contact(s) indicated in the CONTACTS section.

Questions will be answered in writing and distributed to all Suppliers unless the question relates to a matter that would differentiate the Supplier’s response, commercially and/or technically.



TABLE OF CONTENTS

1.	Preface	2
2.	Introduction	4
3.	Key Dates	5
4.	Contacts	5
5.	Instructions to Respondents.....	5
6.	Overview of the Proposed Network	7
7.	Network Vendor Services	8
a.	General Requirements.....	8
b.	Project Management	8
c.	Equipment Specifications	8
d.	Design	9
e.	Deployment Timelines	9
f.	Operations	9
g.	Pricing	10
h.	Vendor Arranged Financing	10
i.	3rd Party Dependencies.....	11
j.	Performance Management and the Launch Network.....	11
k.	Testing, Optimization and Acceptance.....	11
l.	Health, Safety and Environment (HSE)	11
m.	Documentation	11
n.	Training	12
8.	Format of Response	12
9.	Specific Questions for Respondents	12
10.	Templates	13



2. INTRODUCTION

With the acquisition of the 5G license and associated spectrum in December 2021, Mafab intends expanding communication services from local interconnect and international carrier services to services enabled by a 5G network.

As part of this process, Mafab is now looking to begin engaging vendors in kicking off the procurement process. At this, it is anticipated that the scope of such service may include the design, supply, and deployment of the entire 5G network including the 5G Radio Access Network (5G-RA) and 5G Core Network (5GC).

Furthermore, Mafab is interested in understanding the various post-delivery Network Operations and Maintenance models available, and hence this RFI requests the respondents to propose viable solutions in this regard.

Mafab is investigating the initial phases of this process that includes the issuance of this RFI as a first step in the procurement process. This will also serve to establish a respondent's capabilities and offerings as a potential Supplier of the contemplated 5G network, a preliminary step leading up to the RFP.

Prospective Suppliers should be able to offer a full "turnkey" service to be fit for purpose, including design, supply, deployment, testing and handover, though the actual type of contract is still subject to further consideration. The scope of work ("SoW") should include delivery and installation of any required materials, regardless of whether imported or procured domestically in Nigeria.

Suppliers that specialize in specific parts of the network system (Specialized Suppliers) and don't offer an "end-to-end" solution, should identify their areas of specialization and need not complete the Excel template parts for the areas they don't operate in. In case a Specialized Supplier works with preferred partners, Mafab prefers the RFI response to be submitted by a lead Supplier, and with the partners clearly indicated in the RFI response.

Mafab is currently developing business models that, when completed, shall describe the requirements of 5G network (coverage targets, phases, customer numbers, voice and data consumption numbers, etc.). Therefore, only indicative and preliminary inputs are provided as a guidance to the Respondents, and for the purposes of benchmarking responses. These are provided in the "Overview of the Proposed Network" section below.

It is anticipated that a full RFP will be released at a later date following completion of the RFI process.



3. KEY DATES

The following are key dates for this RFI:

RFI Issued	1 March 2022
Last date for submission of questions regarding the RFI	7 March 2022
Written Answers to Questions Distributed	11 March 2022
Responses Due by 5:00pm West Africa Standard Time (GMT+1)	21 March 2022
Follow up questions and discussions with respondents	March / April 2022

4. CONTACTS

For answers to any queries or for further clarification, please do not hesitate to send an email to:

5GRFI@mfbcommunications.ng

Questions will be answered in writing and distributed to all Suppliers in accordance with the key dates above unless the question relates to a matter that would differentiate the Supplier’s response, commercially and/or technically.

5. INSTRUCTIONS TO RESPONDENTS

The intent of this RFI is to obtain technical information and indicative budgetary guidance regarding the proposed 5G network. A description of the indicative services and deployment targets is provided as currently envisioned by Mafab. Respondents should review the description and base their response on the information provided.

Additionally, respondents may suggest alternative approaches based on their learning experience relative to 5G (especially for topics touching those listed in the “Specific Questions for Respondents” section).

For the purposes of this RFI, vendors should assume that the selected Supplier would be able to provide all planning, design, supply, and deployment (including installation, testing, and commissioning) on a turnkey basis. However, note that the actual type of contract (e.g., among the



various approaches outlined by FIDIC, the International Federation of Consulting Engineers) is yet to be determined.

To ensure the information provided is as complete and accurate as possible, respondents should assume that, unless clearly indicated otherwise, everything described herein is within the SoW for supply of the 5G network and include this in their response.

Topics to be considered in the response are given in the Project Services and General Requirements sections below. Respondents are free to choose how they present such information, except where Templates have been provided, in which case the given Template formats must be used. All responses should be organized according to the chapters listed in the Format of Response section. These should make sure to clearly provide direct and detailed answers to the Specific Questions for Respondents below. A compliance matrix is not required at this stage provided the questions in “Specific Questions for Respondents” Section are answered directly. All Templates are provided as a separate file in Excel format and form part of this RFI.

This RFI does not constitute a commitment, implied or otherwise, that Mafab will take procurement action in this matter. Neither Mafab nor its Consultants will be responsible for any costs incurred in responding to this RFI.

Responses to be uploaded to the Mafab data-room by no later than 5:00pm West Africa Standard Time (GMT +1), on the date indicated in the KEY DATES section above.

Respondents may apply for data-room login credentials by sending a request email to 5GRFI@mfbccommunications.ng with the Company Name in the subject line (e.g. ALCATEL 5G RFI). This will generate an automated message and will result in the creation of data-room space to be used for the upload of RFI response documents.



6. OVERVIEW OF THE PROPOSED NETWORK

Mafab is at the early stages of preparing the network rollout plan. For the purposes of this RFI, a list of cities where Mafab may deploy network has been given. These include the following indicative list of cities and towns:

State	City	Phase
Abuja	Abuja	Phase 1
Lagos	Lagos	Phase 1
Rivers	Port Harcourt	Phase 1
Edo	Benin City	Phase 2
Kaduna	Kaduna	Phase 2
Kano	Kano	Phase 2
Abia	Aba	Phase 2
Imo	Owerri	Phase 2
Oyo	Ibadan	Phase 2
Akwa Ibom	Uyo	Phase 2
Anambra	Onitsha	Phase 2
Delta	Warri	Phase 2
Ogun	Abeokuta	Phase 2
Bauchi	Bauchi	Phase 3
Benue	Makurdi	Phase 3
Borno	Maiduguri	Phase 3
Cross River	Calabar	Phase 3
Nasarawa	Lafia	Phase 3
Ondo	Akure	Phase 3

As part of this RFI, the Respondent is requested to provide indicative Radio Access Network (RAN) dimensioning to provide seamless coverage in these cities, given the current Mafab spectrum holding of 100MHz TDD in 3500MHz band. The Respondent should provide throughput assumptions used in the planning process.



Mafab is also at the early stages of preparing the business model with customer and usage forecasts. For the purposes of this RFI, the Respondent shall dimension the network to cater for the following customer uptake plan:

	Year 1	Year 2	Year 3	Year 4	Year 5
Total customers	613,330	3,315,931	5,969,421	7,816,484	10,508,022
Total data GBs (24 Hour)	2,158,922	10,590,016	20,888,232	29,870,522	43,822,776

7. NETWORK VENDOR SERVICES

A. GENERAL REQUIREMENTS

The Supplier will be expected to undertake a complete program including Project Management, Engineering, Quality Assurance, Testing, Health Safety and Environment plan, Documentation, and Training in line with accepted industry practices. Complete details of these requirements will be included in the RFP.

B. PROJECT MANAGEMENT

Development of a plan of work, project management plan, and organization of regular project review calls (as relevant), action item tracking, risk and stakeholder management and any other related activities will be part of project management. It is expected that there should be regular face-to-face project review meetings to be held in Nigeria over the course of the project. Regular reports including progress, issues and resolutions, and financial (payment) status will be required.

C. EQUIPMENT SPECIFICATIONS

The Respondents should provide details about the specifications of its network offering in the domains of 5G Radio Access Network (5G-RA), 5G Core Stand-Alone (5GG-SA), Converged Charging & Billing System, and Connectivity Solutions (Transmission, whether wireless or Optical Fiber (OFC)).

The Excel Template worksheets (1), (2), (3) and (4) should be populated in this regard. Any information the Respondent wishes to convey, that is not captured in the Template, may be done



separately. The Template should not be modified to accommodate the supplementary information submission.

D. DESIGN

The Respondents should provide indicative information about the dimensioning of the proposed network offering by populating worksheets (5), (6) and (7) of the Excel Template.

Any information the Respondent wishes to convey, that is not captured in the Template, may be done separately. The Template should not be modified to accommodate the supplementary information submission.

E. DEPLOYMENT TIMELINES

The Respondents should provide indicative deployment timelines for the Phase 1 network mentioned above by populating worksheet (8) of the Excel Template.

F. OPERATIONS

The Respondents should provide indicative information about the dimensioning of the proposed network Operations Team (for both insourced and outsourced operating model options), and also provide details of other expected Operations-related costs by populating worksheets (9) of the Excel Template.

Any information the Respondent wishes to convey, that is not captured in the Template, may be done separately. The Template should not be modified to accommodate the supplementary information submission.

The Supplier shall additionally describe all support contracts required, whether such contracts shall be with the Supplier or with 3rd parties.

The Supplier shall detail the period of in-country training and support that it is able to offer Mafab for this project, including the type of support that will be offered and the resourcing that will be available to deliver this support.

The Supplier shall detail when each the proposed equipment shall become EOS (End of Support) and EOL (End of Life).

The Supplier shall indicate interest in post-deployment facility Operations, and suggest the recommended engagement model (e.g., Outsourcing, Managed Services, etc.). The Supplier shall



also suggest 3rd parties who may be suitable parties for Mafab to engage with for on-going Operations and Maintenance activities.

G. PRICING

The Respondent should provide indicative pricing information in USD ('000) corresponding to the proposed network supply and operations by populating worksheets (5), (6), (7) and (9) of the Excel Template.

The supply prices should include supply and delivery of all equipment to site, and should include deployment services.

The Respondent should note that Mafab prefers to pay for products and services in Naira - the Respondent should indicate readiness to accept payment for all or part of the products and/or services in Naira. Additionally, the Respondent should indicate any impacts or implications of receiving payment in Naira.

The Responded should take care to respond to the various Operating Costs mentioned in the Excel Template with feedback that considers local market cost structures in Nigeria.

Any information the Respondent wishes to convey, that is not captured in the Template, may be done separately. The Template should not be modified to accommodate the supplementary information submission.

H. VENDOR ARRANGED FINANCING

The Supplier should provide headline information about vendor financing that it is able to arrange for this project, including:

- Upfront costs/fees
- The source of the financing
- Financing amount
- Repayment terms and options
- Cost of financing
- Any other terms and conditions



I. 3RD PARTY DEPENDENCIES

The Respondents should provide details about any and all 3rd party dependencies in the proposed network solution. These include the likes of Public Cloud service providers, transmission services providers, TowerCo's, etc.

J. PERFORMANCE MANAGEMENT AND THE LAUNCH NETWORK

The Respondents should provide details about the network performance KPIs that will be achieved by the time of network handover.

K. TESTING, OPTIMIZATION AND ACCEPTANCE

The Supplier should describe its approach to testing including:

- Factory acceptance testing
- Testing and commissioning of equipment
- Site acceptance testing
- System operation verification
- Integrated system testing and KPI achievement (for launch)
- Tier certification documentation

L. HEALTH, SAFETY AND ENVIRONMENT (HSE)

The Supplier will describe its corporate commitment to Health, Safety, and Environment (HSE) plans for the execution of this project.

M. DOCUMENTATION

All documentation should be provided in electronic format. In addition to regular project reports, required documentation will include survey reports, as-built documentation, and any other items needed to satisfy the general requirements. This should include required documentation for NCC, or other such certifications / compliance.



N. TRAINING

The respondent shall outline the necessary training required by Mafab personnel to operate the delivered network, and whether the vendor provides such courses, or works with other 3rd parties to facilitate these. To what extent the organization may want to develop these competencies in-house versus options for outsourcing, and how that mix may evolve through time.

8. FORMAT OF RESPONSE

Responses to this RFI must include the following sections. Respondents may use their preferred formats, including Word and/or PDF documents, for all items except where Templates have been provided (these have been indicated in the respective sections). The RFI response should not contain proprietary or confidential information.

1. Cover Letter, including contact names, phone numbers, e-mail addresses
2. Description of the proposed solution
3. Narrative, including answers to “Specific Questions For Respondents”
4. Completed indicative Excel Template
5. Supply record (specifically in Nigeria, and /or in African markets)
6. Product descriptions
7. Any additional information.

9. SPECIFIC QUESTIONS FOR RESPONDENTS

Please provide answers to the following questions as part of the narrative response to this RFI:

1. Please indicate your organizations views of the relevant 5G services (with specific use cases) that can be viably offered in the Nigeria market, given Mafab’s spectrum holding and given the market demand for such services in Nigeria.
2. Please indicate your organizations views on optimal network coverage rollout strategy, given Mafab’s spectrum holding (e.g., nationwide, urban-only, etc.).
3. Please indicate your organization’s views on the viability (technically and otherwise) of Mafab entering into:



- a. a National Roaming arrangement with an incumbent MNO, for the provision of services nationally.
 - b. a Spectrum Sharing arrangement with an incumbent MNO, for the provision of services nationally.
 - c. a Network Sharing arrangement with an incumbent MNO, for the provision of services nationally.
4. Please indicate your organizations views of the viability of providing voice and mobility services (both voice and data), given Mafab's spectrum holding.
5. Please indicate your organizations views of the viability of hosting a part of, or the entire 5G Core Network (5G-CN) in the public cloud.
6. In case Mafab enters roaming arrangements with a 4G MNO, please indicate any additional network infrastructure along with indicative costing, that will need to be deployed.
7. Please indicate your organizations views of the optimal solution for last mile connectivity for sites, considering Wireless solutions, Optical Fibre (OFC) solutions, OFC Self-build vs Lease and in case of OFC Lease, and assessment and rating of OFC providers in the market. Where Wireless solutions are proposed, please indicate the spectrum that Mafab would need to acquire to operate such Wireless solutions.
8. Please indicate your organizations willingness and ability to participate in a pilot deployment aimed at showcasing the proposed network solution in terms of: (i) speed of deployment, (ii) richness of features and functionality, (iii) competitiveness of performance. The Respondent should provide necessary details about the pilot deployment.
9. Please provide any other information pertinent to Mafab's planned 5G network and services that that may not have been covered in this RFI.
10. In case Mafab decides to launch a Fixed Wireless Access (FWA) product in the market, please indicate a list of recommended and compatible FWA user terminals suitable for the Mafab network.

10. TEMPLATES

A single Excel Template is provided to capture Specifications, Indicative Design, Operations, and Deployment Plan, and Indicative Pricing information.