**Scope of Work and Technical Specifications**

1 **General Information**

1.1 **Location**

The video conferencing solution is required to be installed at 11 locations in Ethiopia. The type of video conferencing end points will be decided after reviewing the submitted proposal.

1.2 **Existing Technology Environment**

The following is a listing of our current video conferencing environment.

- Currently we don’t own video conferencing system that can be integrated with current technologies
- Our Branch offices are connected with a minimum of 10mb/s to our datacenter
- Based on a reasonable requirements of the proposed solution we can upgrade our bandwidth
- Our users’ desktops and laptops are Windows based
- Our users smart phone are Android and IOS devices

2 **Compliance to general requirement**

On this part supplier should explicitly put there compliance to the following list of general requirements. Supplier should put there statement using Comply or Not Comply statement

2.1 **Capability/Functionality**

- The video conferencing system shall deliver superior audio quality to the entire conference room environment.
- The video conferencing system shall deliver superior image quality to the entire conference room environment.
- The video conferencing system shall have the ability to schedule and invite participants to a video conferencing session.
The video conferencing system shall have a management utility capable of centrally managing a video conference session as well as the entire video conferencing system.

The video conferencing system shall have the ability to support calls made from an ordinary telephone system (PSTN), ISDN, SIP on demand and scheduled conferences on the same video conference call simultaneously.

The video conferencing system shall have real time content sharing capabilities.

The system shall provide sufficient room for future growth and development similar or updated versions.

The system shall display properties of modularity. If part(s) of the system become unavailable, the system shall be able to continue to operate at an acceptable standard.

The video conferencing system shall support adjustable bandwidth for content.

The system shall be able to operate with other desktop, software and hardware based video conferencing technologies for other vendors.

The system shall utilize the latest encryption standards and other data security services to ensure that communications and system resources are kept secure and confidential.

2.2 Audio Requirements

The video conferencing system shall support a wide range of the latest audio industry standards and digital formats.

The system should be able to decipher multiple, simultaneous conversations and be able to distinguish which side of the room people are talking from.

The video conferencing system shall provide audio error concealment facilities (reduce audio drop on busy IP or ISDN networks).

The video conferencing system shall have the ability to correct audio from the communications system easily.

The video conferencing system shall have built in echo cancellation and other noise suppression functionality.

The system shall have 360° audio pickup capacities sensitive enough to pick up whispers, smart enough to eliminate noise.
2.3 Video Requirements
- The video conferencing system shall support a wide range of the latest video industry standards and digital formats.
- The video conferencing system shall support a wide range of the latest video formats and industry standards.
- The system shall support but not be limited to the following formats and standards:
  - H.261, H262, H263+, H.263++, H264 video standards
  - MPEG, MPEG2 and MPEG4 video formats
  - CIF, SIF, 4CIF, VGA, SVGA, XGA display resolution
- The video conferencing system shall support video error concealment facilities (reduce video drop on busy IP or ISDN networks).

2.4 Supported Interfaces
- The video conferencing system shall support a wide range of the latest standard interfaces for outputting digital / analog audio and video to external equipment.
- The system shall provide a wide variety of standard network interfaces to facilitate connectivity to various types of networks.
- The video conferencing system shall support a wide range of the latest interfaces for accepting digital / analog audio and video input from external sources.

2.5 Content Sharing
- The system shall be able to show /share content from a PC / laptop.
- The video conferencing system shall be able to allow laptop / PC IP network to actively participate in a conferencing session.
- The video conferencing system shall have the ability to share presentation data from applications such as but not limited to Microsoft PowerPoint, Excel, Word and drawings on digital whiteboard in real time to local and remote site(s).

2.6 Supported Network Interfaces and Protocols
- The system shall support a wide variety of standard network interfaces to facilitate connectivity to various types of networks.
The system shall support but shall not be limited to the following networking protocols:

- TELNET, HTTP, FTP, PING, DNS (Client), DHCP (Client), RTCP, SIP, RTP,
- TCP, H.323 (LAN), H.320 (ISDN), H.323/H.320 Mixed, ARP.

3 Proposed solution

The proposal should contain the following sections. Don’t include information that is not directly related to the concepts mentioned in this section. If you need to provide additional information it must be within the “additional Technical Documents and references” section of your proposal.

3.1 Scope

The supplier of the requested solution will be responsible to provide all necessary hardware and software. The project implementation will also be carried out by the supplier. The proposal should show the scope of the project and responsibility matrix that show what is needed from telecom and the supplier. Equipment and implementation prices should be separated and all items

3.2 Overview of Proposed Solution

The proposal should contain an overview of the video conferencing solution along with technical description of the equipment and data sheets and brochures.

3.3 Technical Specifications

Please describe in detail how the proposed videoconferencing solution will meet or exceed each of the following baseline requirements. Those points will be selection criteria for the solution.

3.3.1 Features

This section should describe the required features for the proposed videoconferencing solution, such as protocol support, data collaboration needs, desktop/teleworker client requirements, session recording/playback, etc. The proposed solution should deliver “in-person” conference experience with support for the following but not limited to

- Three-channels stereo audio
- One or more microphone inputs
- Lip sync
- Sound localization
3.3.2 Performance
This section should describe the desired performance characteristics for video/audio conferencing. This may include High Definition (HD) capabilities, wideband audio, intelligent bandwidth management and/or scaling, Quality of Service (QoS) configuration, and performance reporting/statistics.

The solution must provide great network adaptability: your proposal should indicate how and by how much your system tolerates packet loss without affecting the audio-visual quality of conference. You should also indicate all available resolution configurations with minimum bandwidth requirement of each type.

3.3.3 Scalability
This section should describe the scalability requirements for the proposed solution, including concurrent multi-party conferencing capacity needs, overall port capacity for Multi-point Conferencing Unit (MCU) platforms, multi-site management etc.

3.3.4 Integration
This section should describe the integration requirements for the proposed solution. This may includes Active Directory / LDAP integration, calendar/scheduling integration, integration with a third party Unified Communications (UC) platform, and potentially third party Web conferencing services or communications tools

3.3.5 Management
This section should describe the management capabilities of the proposed solution, including details for central management of both vendor and third party elements. Have the vendor explicitly state which administrative capabilities are included in the proposed solution and which are offered at additional cost. Some vendors offer basic built in management plus more sophisticated capabilities as an add-on. Others include advanced management functionality right out of the box. State that ease of use, integration of features, and functionality will be critical factors in videoconferencing solution selection.
### 3.3.6 Security

This section should describe enterprise security standards and specifications for the proposed videoconferencing solution, including network configuration details. Specific details here may include AES encryption requirements, existing VPN access technologies, etc.

### 3.3.7 Interoperability

This section describes interoperability of the proposed solution with known desktop unified communication solution.

has also underway to implement Microsoft based unified desktop solution. Hence the proposed video conference should describe integration with this solution on this part.

### 3.4 Deployment and Configuration

Please describe in detail how the proposed videoconferencing solution will meet deployment and configuration requirements. The proposal should also contain types of end points with full description of each type.

The proposed product must be highly integrated with display screens. Cameras, speakers, microphones, codecs, control devices, equipment rack and conference table. In the proposed design cables must be out of view to contribute to system’s sleek appearance. Your proposal should show how you plan to achieve this goal.

The proposed end point conferencing solution should meet the following minimum requirements

<table>
<thead>
<tr>
<th>S/N</th>
<th>Description</th>
<th>Minimum requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Video Display Size</td>
<td>42 inch</td>
</tr>
<tr>
<td>2</td>
<td>Video Resolution</td>
<td>1280X1024, 60fpsm, Full HD</td>
</tr>
<tr>
<td>3</td>
<td>Sound system</td>
<td>High quality Microphone and speakers</td>
</tr>
<tr>
<td>4</td>
<td>Camera</td>
<td>1080p Camera</td>
</tr>
</tbody>
</table>
3.4.1 Main Site Deployment
This section should describe the core videoconferencing hardware deployment and configuration for the primary location. Specific details here may include network/infrastructure planning, bandwidth testing/configuration, room design and configuration, etc.

3.4.2 Branch Deployment
This section should describe requirements for deployment of videoconferencing hardware and functionality to branch locations. Specific details here may include requirements for configuration of branch office systems, remote worker specifications, VPN requirements, etc.

3.4.3 Network Configuration
This section should describe the nature of integration with the present network environment and existing configurations and settings required.

3.4.4 Civil and decoration work
This section should describe design requirement for the proposed video conferencing room may include lighting decorative, wall painting and other relevant.
will handle the implementation work by its budget based on the posed design.

3.5 Support and Maintenance
State a baseline required for support. For example: 5 years 24X7 onsite software and hardware support. Require that a detailed description of standard and extended support and maintenance to be provided.

3.5.1 Training
Describe what level of knowledge is required to operate the proposed solution and training you plan to provide with the solution to achieve the required knowledge.

3.5.2 Service Provider
Please state the name of the company which will be delivering service and on-site support for this solution.
If service has been outsourced to another firm, how long has this relationship been in effect?
3.5.3 Product History

Please provide a technical roadmap for the proposed solutions. How does the proposed solution fit into the vendor’s current product lifecycle?

Please provide a list of policies on firmware updates for the proposed solution. How often are changes released? How is the customer notified about changes? How are they applied?

3.6 Engagement Methodology

telecom requires the deployment of the solution should be conducted as a project. The supplier should describe the proposed project management approach, define responsibility matrix and project implementation schedule.

4 Product history and road map

In your proposal please show the history of your solution. It should include major version improvements and other related milestones. Also include the road map of your offered solution.

5 Additional Technical Documents and references

- To make the proposal more clear and focused use this section to provide additional information, references, testimonials and other documents you assume useful.
- The proposal should include description of the project governance and implementation schedule
- The proposal should be submitted in hard copy and softcopy format.