

REQUEST FOR PROPOSALS

SERVICES FOR

Integration of Speech Analytics System, Voice Recognition System and Interactive Answering System into YIMER 157

IOM Turkey



**IOM International Organization for Migration
IOM Uluslararası Göç Örgütü**

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**IOM International Organization for Migration
IOM Uluslararası Göç Örgütü**

Request for Proposals

The International Organization for Migration (**IOM**) is an intergovernmental organization established in 1951 and is committed to the principle that humane and orderly migration benefits both migrants and society.

In the framework of IOM Turkey's programs, the IOM invites interested eligible Service Providers to submit Proposals for the required services as per this RFP.

The Service Provider will be selected based on considerations outlined in this RFP.

This RFP includes Instructions to Service Provider, Terms of Reference and administrative requirements that Service Providers will need to follow in order to prepare and submit their Proposals for consideration by IOM.

The Proposals must be submitted by e-mail to Procurement Ankara at iomturytenders@iom.int with a subject of **TD-ANK-2021-0089** no later than 3:00 PM on Tuesday the 25th of May 2021. No late proposal shall be accepted.

Proposals submitted after the above deadline will not be considered. IOM reserves the right to accept or reject the whole or part of any or all proposals based on the fulfilment of the provisions as described in the General Instruction to Service Providers.

Service Providers which do not receive notification before the 8th of June 2021 can consider their Proposals unsuccessful.

IOM reserves the right to cancel the procurement process and reject all Proposals at any time prior to award of a Purchase Order or Contract, without thereby incurring any liability to the affected Service Providers or any obligation to inform the affected Service Providers of the ground for IOM's action.

Please contact Ms. Basak YAGAN at procsupportank@iom.int for any technical inquiries.

Very truly yours,

Procurement & Logistics Unit
IOM Ankara

IOM is encouraging companies to use recycled materials or materials coming from sustainable resources or produced using a technology that has lower ecological footprints.

GENERAL INSTRUCTION TO SERVICE PROVIDERS (GIS)

1. Description of Services

- 1.1 See more details as described in the Terms of Reference (Annex B) for the required services. IOM requests prospective Service Providers to submit Technical and Financial Proposals for this Service.
- 1.2 Only eligible and accredited Service Providers may submit Proposals. The proposal shall be the basis for contract negotiations and ultimately for a signed contract with the successful Service Provider.
- 1.3 Service Providers shall not be hired for any assignment that would be in conflict with their prior or current obligations to other procuring entities, or that may place them in a position of not being able to carry out the assignment in the best interest of the IOM.
- 1.4 IOM is not bound to accept any proposal and reserves the right to annul the selection process at any time prior to contract award, without thereby incurring any liability to the Service Providers.

2. Corrupt, Fraudulent, and Coercive Practices

- 2.1 IOM requires that all IOM Staff, manufacturers, Service Providers or distributors, observe the highest standard of ethics during the procurement and execution of all contracts. IOM shall reject any proposal put forward by Service Providers, or where applicable, terminate their contract, if it is determined that they have engaged in corrupt, fraudulent, collusive or coercive practices. In pursuance of this policy, IOM defines for purposes of this paragraph the terms set forth below as follows:
 - 2.1.1 Corrupt practice means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the action of the Procuring/Contracting Entity in the procurement process or in contract execution.
 - 2.1.2 Fraudulent practice is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, the Procuring/Contracting Entity in the procurement process or the execution of a contract, to obtain a financial gain or other benefit to avoid an obligation.
 - 2.1.3 Collusive practice is an undisclosed arrangement between two or more Service Providers designed to artificially alter the results of the tender procedure to obtain a financial gain or other benefit.
 - 2.1.4 Coercive practice is impairing or harming, or threatening to impair or harm, directly or indirectly, any participant in the tender process to influence improperly its activities in a procurement process or affect the execution of a contract.

3. Conflict of Interest

- 3.1 All Service Providers found to have conflicting interests shall be disqualified to participate in the procurement at hand. A Service Provider may be considered to have conflicting interest under any of the circumstances set forth below:
 - 3.1.1 A Service Provider has controlling shareholders in common with another Service Provider.
 - 3.1.2 A Service Provider receives or has received any direct or indirect subsidy from another Service Provider.
 - 3.1.3 A Service Provider has the same representative as that of another Service Provider for purposes of this Proposal.
 - 3.1.4 A Service Provider has a relationship, directly or through third parties, that puts them in a position to have access to information about or influence on the Proposal of another or influence the decisions of the Mission/Procuring Entity regarding this Proposal process.
 - 3.1.5 A Service Provider submits more than one Proposal in this Proposal process.
 - 3.1.6 A Service Provider who participated as a consultant in the preparation, or the design, of the technical specifications of the Goods, or the Terms of Reference of the Services, that are linked or subject to this Proposal process.

4. Eligible Service Providers

- 4.1 Only Service Providers that are determined to be qualified shall be considered for award. In order to establish their eligibility, together with the Proposal, the Service Provider shall submit the documents as specified below in para 9.1.2.1.

5. Clarifications and Amendments to RFP Documents

- 5.1 At any time before the submission of the proposals, IOM may amend the RFP. Any amendment made will be made available in writing to all Service Providers.
- 5.2 Service Providers may request for clarification(s) on any part of the RFP. The request must be sent in writing at the following e-mail address:

Attn: Ms. Basak YAGAN

Email: Procurement Ankara procsupportank@iom.int

Mob: +90 531 305 76 70

- 5.3 IOM will respond to any request for clarification received on or before the 18th of May 2021 by 5.00 PM. Copies of the response including description of the clarification will be given to all Service Providers who received this General Instruction, without identifying the source of the inquiry.

6. Errors, omissions, inaccuracies and clarifications

- 6.1 The documents and forms requested for the purpose of soliciting Proposals shall form part of the Contract; hence care should be taken in completing these documents.
- 6.2 Service Providers shall not be entitled to base any claims on errors, omissions, or inaccuracies made in the Proposal Documents.

7. Confidentiality and Non-Disclosure

- 7.1 All information given in writing to or verbally shared with the Service Provider in connection with this General Instruction is to be treated as strictly confidential. The Service Provider shall not share or invoke such information to any third party without the prior written approval of IOM. This obligation shall continue after the procurement process has been completed whether or not the Service Provider is successful.

8. IOM's Right to accept any Proposal and to reject any and all Proposals

- 8.1 IOM reserves the right to accept or reject any Proposal, and to cancel the procurement process and reject all Proposals, at any time prior to award of a Purchase Order or Contract, without thereby incurring any liability to the affected Service Providers or any obligation to inform the affected Service Providers of the ground for IOM's action.

9. Requirements

9.1 Proposal Documents

The following shall constitute the Proposal Documents to be submitted by the Service Provider:

- 9.1.1 Proposal Form (see Annex A).

9.1.2 Technical Proposal:

The Technical Proposal shall be in a separate document, provides the following information using the Service Provider's preferred template:

9.1.2.1 Administrative Documents

- i. Registration documents.
- ii. Taxation cards.
- iii. Any other valid legal documents.

9.1.2.2 A brief description of the Service Provider's profile and past performance/experience of the same type of the requested activity.

- i. Company Information:
 - a. Corporate Information:
 - i. Company mission statement (*including profit or not for profit status*)
 - ii. Service commitment to customers and measurements used.
 - iii. Accreditation.
 - iv. Organization structure.
 - v. Geographical presence.
 - vi. Declared financial statements for the past (3) three years.
 - b. Legal Information:
 - i. History of Bankruptcy. (if any)
 - ii. Pending major lawsuits and litigations. (if any)
 - iii. Pending Criminal/Civil lawsuits. (if any)
- ii. Experience and Reference Contact Information (project names, description, status, reason for relevance, roles and responsibilities):
 - a. Relevant Contractual projects (UN Agencies).
 - b. Relevant Contractual projects (EU Agencies).
 - c. Relevant Contractual projects (Others).

9.1.2.3 Organization and Methodology:

- i. Rationale:
 - a. Background Information.
 - b. Project Objectives and Expected Results.
 - c. Comments on the Terms of Reference.
 - d. Opinions on Key Issues.
 - e. Assumptions and Risks.
 - f. Logistics and Timing.
 - g. Monitoring and Evaluation.
 - h. Publicity and Visibility.
- ii. Strategy:
 - a. Project Management Approach.
 - b. Detailed Methodology on how to develop software and how to meet requirements.
 - c. Project Implementation Strategy.
- iii. Project Team, Roles and Responsibilities, CVs, Backstopping, Single Contact Point, Contingency plans etc.

9.1.2.4 Schedule of Requirements: A detailed delivery timetable (delivery lead-time) for the entire service.

9.1.3 Financial Proposal:

The Financial Proposal shall be in a separate document, provides the following information using the Service Provider's preferred template:

- 9.1.3.1 The cost breakdown with as much details as possible (**Speech Analytics System, Voice Recognition and Interactive Answering System**), including the quantities and unit costs.
- 9.1.3.2 Separate proposal for one (1) year additional support and maintenance of the systems as stated in the Support and Maintenance section of the TOR – Annex B.
- 9.1.3.3 Separate proposal for man-day service as stated in the Support and Maintenance section of the TOR – Annex B.
- 9.1.3.4 All costs associated with the provision of this service, including; (i) remuneration for the experts and

manpower (ii) expenses such as for the designing, formatting, producing, installing, implementing, programming and training to end users (iii) operational cost, such as; travel and transportation, etc, and (iv) all applicable taxes (if any). (Note: activities and items included in the Technical Proposal not priced in the Financial Proposal shall be considered included in the prices of other activities or items).

9.1.3.5 Terms of payment and payment method shall be clearly defined in the Financial Proposal and further discussed during the negotiations.

9.2 Proposal Forms

9.2.1 The Proposal Forms (9.1.1, 9.1.2, and 9.1.3) and any other required documents shall be duly accomplished, typewritten or written in indelible ink, signed and stamped, before submitting to IOM. Any correction made to the prices, rates or to any other information shall be rewritten in indelible ink and initialed by the authorized person signing the Proposal Form.

9.2.2 The language of the Proposal shall be in English and prices shall be quoted in USD – US Dollars exclusive of Sales Tax.

9.2.3 Prices quoted by the Service Provider shall be fixed during the performance of the contract and not subject to price escalation and variation on any account, unless otherwise approved by IOM. A submitted Proposal with an adjustable price Proposal will be treated as non-responsive and will be rejected.

9.3 Validity of Proposal Price

9.3.1 The submitted prices shall remain valid for 120 days, after the deadline for submission.

9.3.2 In exceptional circumstances, prior to expiry of the period of validity of Proposals, IOM may request that the Service Providers extend the period of validity for a specified additional period. The request and the response there shall be made in writing. A Service Provider agreeing to the request will not be required or permitted to modify its Proposal.

10. Submission of Proposal Documents

10.1 Proposals must be submitted to the following e-mail address:

Email address: iomturkeytenders@iom.int

Email subject: **TD-ANK-2021-0089**

Attn: Ms. Basak YAGAN

Mob: +90 531 305 76 70

10.2 It is important to keep the above tender ID unchanged in the e-mail subject, as highlighted above in red.

10.3 Proposals shall be submitted on or before 3.00 PM on the 25th of May 2021. Late¹ Proposals will not be accepted.

11. Acceptance of Proposals

11.1 IOM is not bound to take an immediate decision on the acceptability or unacceptability of Proposals at the time of their opening.

¹ Proposals delivered beyond the prescribed closing date and time shall be considered late and will be automatically disqualified by the system.

12. Rejection of Proposals

12.1 Proposal can be rejected for the following reasons:

- 12.1.1 The Proposal is not presented in accordance with this General Instruction.
- 12.1.2 The Proposal Form or any document which is part of it is not signed/stamped.
- 12.1.3 Incompleteness of the Proposal Documents.
- 12.1.4 The Service Provider is currently under list of blacklisted Service Providers.
- 12.1.5 The Proposal imposes certain basic conditions unacceptable to IOM.
- 12.1.6 Sudden internal operational and administrative changes within IOM.
- 12.1.7 The Service Provider does not pass the government security checks.

12.2 IOM is not bound to accept any Proposal received and reserves the right to waive any minor defect in a Proposal, provided, however, that such minor defect (i) does not modify the substance of the Proposal and (ii) does not change the relative ranking of the Service Provider.

13. Evaluation of Proposals

13.1 IOM shall evaluate and compare the Proposals on the basis of the following:

- 13.1.1 Completeness and responsiveness of the Proposal documents.
- 13.1.2 Registration, experience and past performance of the Service Provider relevant to the requested service.
- 13.1.3 Compliance with the RFP description as listed in above and the TOR.
- 13.1.4 The Technical Proposal details and specifics.
- 13.1.5 The Financial Proposal details and specifics.
- 13.1.6 The Proposal contents of all the information as specified in above articles. If any of the requested information is missing or is incorrect, the Proposal may be rejected on that sole basis and the Proposal will not be evaluated further.

13.2 Arithmetical errors will be corrected on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected accordingly. If the Service Provider does not accept the correction of the errors as per this method, its Proposal will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.

13.3 The Proposals that pass the first administrative check will be evaluated on the relevance and design of the proposed action.

14. Delivery Site and Period of Delivery

14.1 Please refer to the Terms of Reference (TOR) document – Annex B.

15. Negotiations

15.1 Contract negotiation is expected to take place no more than one week after notification of the successful Service Provider.

15.2 Negotiations will include discussion and finalization of a) Scope of Services; b) Design and Technical requirements; d) the Financial Proposal submitted; e) Payment Terms; and f) Contractual Terms.

15.3 All agreements coming out of the negotiations will be incorporated into the contract.

16. Liquidated Damages

16.1 If the Service Provider fails to deliver any or all of the services within the period as specified in the contract's delivery schedule, a penalty payment of 0.1% of the price of the undelivered Services for every day of breach of the delivery schedule by the Service Provider will be applied.

17. Payment

17.1 Full payment shall be made upon IOM's inspection and acceptance of the services, and upon IOM's receipt of the valid original invoice describing the services delivered.

18. Award of Contract

18.1 Following the negotiations, the contract will be awarded to the selected Service Provider.

18.2 Service Providers which do not receive notification before the 8th of June 2021 can consider their Proposals unsuccessful.

19. Settlement of Dispute

19.1 The United Nations Commission on International Trade Law (UNCITRAL) arbitration rules will apply for any dispute, controversy or claim that will arise in relation to the procurement process.

20. Confidentiality

20.1 Information relating to the evaluation of proposals and recommendations concerning awards shall not be disclosed to the Service Provider who submitted Proposals or to other persons not officially concerned with the process.

20.2 The Service Provider shall not disclose any information in the Proposals to any third party. This obligation shall continue after the procurement process has been completed whether or not the Service Provider is successful. IOM will however archive all Proposals for auditing purposes.

Annex A

PROPOSAL FORM

Date : _____

To : IOM Ankara

Having examined the General Instruction for the provision of the requested services, the receipt of which is hereby duly acknowledge, I, representing *[name of company]* offer to render the requested services in conformity with the General Instruction in accordance with the Technical and Financial documents which is herewith attached and form part of this Proposal.

I undertake if my Proposal is accepted, to render the services in accordance with the delivery schedule set out in the Proposal document.

I agree to abide by this Proposal for the Validity Period specified in the General Instruction which may be accepted at any time before the expiration of that period.

I hereby certify that this Proposal complies with the requirements stipulated in the General Instruction.

Dated this _____ day of _____.

[signature over printed name]

[in the capacity of]

Duly authorized to sign Proposal for and on behalf of

[name of company]

Annex B

TERMS OF REFERENCE

Integration of Speech Analytics System, Voice Recognition and Interactive Answering System into YIMER 157

a. Background Information and Rationale, Project Description

Country Background

Turkey is the country with the highest number of refugees in the world. According to registers dated on 14.04.2021 of the Directorate General of Migration Management (DGMM) number of registered foreigners as follows (For more information about the statistics of Turkey, see at <https://en.goc.gov.tr/>):

- Syrians under temporary protection is 3.670.069 (1.695.967 women)
- Foreigners with Turkish Residence Permit 1.076.175
- International Protection Application is 31.334 (for the year of 2020)

Turkey currently provides temporary protection status to Syrians in Turkey. As the Syrian population increased and their stay in Turkey is prolonged, the needs of both Syrian and host communities go beyond humanitarian, and call for longer term, more durable solutions. The Regional Refugee and Resilience Plan (3RP) bringing together the plans developed under the leadership of national authorities to ensure protection, humanitarian assistance and strengthen resilience allocated funds for the expansion of livelihood and job opportunities for Syrians under temporary protection and host community members.

Institutional Background

IOM Turkey, the UN Migration Agency first opened its offices in Turkey in 1991 following the aftermath of the Gulf War. IOM's partnership with the Republic of Turkey was formalized in November 2004, when Turkey was granted member status to IOM. The partnership between IOM and Turkey continued since then, including support drafting the Law of Foreigners and International Protection, as well as establishing the Ministry of Interior's Directorate General for Migration Management (DGMM) in 2013. Now in its 29th year of operations in Turkey, the mission addresses the full scope of migration issues, supporting and developing government capacity to manage migration.

Alongside IOM's role in addressing the needs of migrants during crises, the mission works in close collaboration with the Government of Turkey to address the longer-term impact of migration, including migrant assistance programmes, labour integration and migration management, immigration and border management and research and data collection on migrant movement.

The Directorate General for Migration Management has been established under the Ministry of Interior of Turkey with a view to implement policies and strategies related to migration; ensure coordination between the related agencies and organizations in these matters; carry out the tasks and procedures related to foreigners' entry into, stay in, exit and removal from Turkey, international protection, temporary protection and protection of victims of human trafficking.

YIMER 157, which is started as an emergency line to help victims of human trafficking and migrant smuggling in May 2005, has started serving under the name of Foreigners Communication Center (YIMER 157) since August 20, 2015 with the takeover of the General Directorate of Migration Management and the expansion of the service network.

During the establishment period, YIMER 157 was giving service in 4 languages including Turkish, English, Arabic and Russian; as of 1 April 2016 with the addition of German and Persian in 6 languages, as of 1 January 2020 with the addition of Pashto in 7 languages (Turkish, English, Arabic, Russian, Persian, German and Pashto). YIMER 157 is providing a non-stop service to foreigners 7 days 24 hours via using VOCALCOM telephone switchboard system (VOCALCOM hermes.net v5 VER 5.5.83.0), reception Menu and a cloud-based Software which was written with C# coding language. The relevant source codes of Admin Panel Software are available in YIMER 157. YIMER 157 has also direct connections to NVI and Göç.NET by establishing information security.

IOM and YIMER 157, which can be accessed within the country and abroad for “accurate, fast and reliable information”, aims to be the first address for foreigners' questions and problems. YIMER 157, where foreigners can find answers to all questions they ask about issues such as visa, residence permit, international protection and temporary protection, provides life-saving service for the foreigners who are victims of migrant smuggling at sea for 7 days 24 hours uninterrupted service for the identification of victims of human trafficking, migrant smuggling and rescue operations. A few statistics about the using of the YIMER as below:

- Max number of calls that are in the queue at the same time is 70, 200 with the voice response system,
- Average 8.944 incoming calls by daily up to the 2020 records,
- Max 29.556 incoming calls by daily having so far up to the 2020 records,

Month	Number of Calls	Change Rate Compared to the Previous Month
Jan	1937.22	0%
Feb	174.025	-10%
March	175.700	1%
April	136.757	-22%
May	120.734	-12%
June	289.420	140%
July	267.251	-8%
August	327.808	23%
September	375.005	14%
October	414.922	11%
November	373.775	-10%

Table 1 : Number of Incoming Calls by Monthly

Under this Job Description, YIMER 157 aims to incorporate the following additional features in their operations:

- to speed up the call center service management and increase its efficiency, customer satisfaction, service quality by converting the interviews between the service recipient and foreign representatives in the call center into text and making statistical and emotional analyzes regarding the interviews via Speech Analytics.

- to answer the question that the service user wants to ask and to understand and answer the needs of their customers via an artificial robot, before connecting to the foreign representative at the call center,
- to respond to the requests and problems of thousands of people on different issues at the same time with virtual servers to our call center and to offer a new service channel for urgent notifications.
- With the voice recognition system, by recording the voice data of the stranger by repeating a specified sentence, it is to check whether the sound matches or not and from which city the stranger is calling (location information).

b. Project Description

This project is part of the Harmonization and Social Cohesion Program Across Turkey Project financed by ICSP (INSTRUMENT CONTRIBUTING TO STABILITY AND PEACE) . The programme intends to contribute to the harmonization of migrants with different legal status in line with Turkey’s National Action Plan on Harmonization and EU approaches IOM’s proposed 18-month response has three specific objectives focusing on (1) the provision of accurate, updated and integrated information to facilitate migrants’ access to services and rights; (2) improving social cohesion through supporting interaction between migrant and host communities; and (3) strengthening the capacity of DGMM, PDMM and other stakeholders through capacity development and technical support. Lastly, the project aligns with the priorities of the IcSP regulation, namely article 3.2 (a) and (o) which note that technical assistance may be provided for: “support, through the provision of technical and logistical assistance, for the efforts undertaken by international and regional organizations and by State and civil society actors in promoting confidence-building, mediation, dialogue and reconciliation” and; “measures to address the potential impact of sudden population movements with relevance to the political and security situation, including measures addressing the needs of host communities in a situation of crisis or emerging crisis, including peace-building”

Specific Objectives

Specific objectives of this contract are integrating:

- Speech Analytics System,
- interactive answering system,
- voice recognition system

into YIMER 157 existing environment/infrastructure.

Expected Results

At the end of the assignment, the contractor is expected to deliver the below functions and services into YIMER.

- Speech Analytics System has been integrated into YIMER 157 without problems/errors
- interactive answering system has been integrated into YIMER 157 without problems/errors
- voice recognition system has been integrated into YIMER 157 without problems/errors
- Providing support and maintenance for 2 year (extension if requested)

Geographical Area to be covered

The operation will be implemented in mainly at DGMM and YIMER 157 Headquarters in Ankara.

c. Scope of the assignment

The contractor will analyze the root problems of YIMER to operate more effectively and efficiently and develop strategies on how to tackle them in a realistic way in terms of Background and Project Description Sections of this TOR.

To do this; YIMER wants to enhance their service with the intended/desired/preferred features/functionalities/requirements/specifications, mentioned in the Attachment of This TOR, with supporting of Turkish, English, Arabic, Russian, Persian, German and Pashto languages and also manage all with “one” admin dashboard via user rights management. If the contractor don’t provide the management of “one” admin dashboard for Speech Analytics, voice recognition and interactive answering system, how to provide the management of them should be detailed in the methodology/offer.

The contractor should detail their solutions and/or products accordingly with their approach and methodology in their technical proposal. Delivering all functionalities mentioned in the attachment by the contractor’s products and services are preferred. The contractor should explain how to provide, which ones to cover/not to cover, Why or how to comply in their approach and methodology with a comparison table with their offer. The contractor can also propose more functionality other than the functionalities with their approach and methodology that will provide more values on YIMER 157 operations, which is preferable.

In addition, the contractor will also provide information about their references in Turkey and/or Abroad with number of agents, seat, sound recording time, capacity, contact information, etc. in terms of Speech Analytics, voice recognition and IVR services provided. It is preferred that the contractor has previously been a Speech Analytics, Voice recognition and Interactive Answering System service reference.

All of the mentioned 7 languages supporting by proposed solutions/products of the contractor will be preferable. The contractor should also detail about which languages will be able “to be” and/or “not to be” supported and “how” with their approach, timeline and methodology in their technical proposal.

The proposed solutions/products should be compatible with VOCALCOM telephone switchboard system (VOCALCOM hermes.net v5 VER 5.5.83.0), which is currently used in YIMER 157.

The proposed solutions/products should have minimum 85% accuracy ratio. In order to ensure the required Speech Analytics and Voice Recognition success, an institution-specific language model library will be studied for all languages served by the YIMER 157 call center. Language model library studies will be carried out separately for each call using call records transmitted by the institution. The accuracy rate should be at least 85% on the basis of each call record and the whole sample. The success of word recognition will be determined by the Administration measuring the texts translated into transcript of at least 100 calls that will be randomly selected monthly according to the weight of all languages served by YIMER.

The contractor should also detail about integration scenarios (WEB API, Port listening, etc.) of the solutions/products to be proposed into current infrastructure (software and hardware) of YIMER 157 with their approach, topology, timeline, smooth transition plan and methodology.

The products/solutions to be proposed will be delivered with the licenses for 200 Agents, 90 SIP and 30 PRI ports of YIMER 157. Relevant costs during the implementation and maintenance/support period will be provided by the contractor.

In order for the application to work, if needed, all the requirements other than the hardware and software license, as well as the development of the language model library necessary for the Speech Analytics and voice recognition products to operate and the system integration support will be provided by DGMM relevant units to analyze the records of call representatives serving in different languages, provided that the necessary information has been delivered/provided from the other relevant units of DGMM.

Since the operation of YIMER is carried out by contractor companies; In the event that the contractor company changes in the operating tender, which will be valid in 2023, the products and services delivered under this specification will be transferred to the infrastructure of the company that will provide new operating support.

In order to cover the above scopes and to reach the contract objectives accordingly, the contractor will implement the following activities:

Inception

Following the signing of the contract, the contractor will meet with the IOM and DGMM representatives to discuss their expectations from the assignment and will address any changing circumstances as might happen by the time contract is signed. The work schedule and details of each task to be implemented under each activity which will be given in the technical proposal will be specified/determined. Task descriptions and work schedule will be presented as a brief inception report within 5 working days (Saturday and Sundays are not considered as working days) following the inception of the contract. During the inception period a working group within DGMM and YIMER will be established and assigned to support Contractor throughout the whole contract period.

0. Needs Assessments

Under this activity, Existing infrastructures, facilities and systems (hardware, software and staffing) of beneficiaries will be examined and determined.

The aim of this activity is to identify the techniques and technologies that DGMM use for the YIMER 157 operations based on Section a, Institutional Background and Attachment of this TOR. Relevant documentation/information/data/source codes/web services/support/API will be able to be provided to the contractor by DGMM and YIMER 157 as well in order to analyze the existing infrastructures. This analysis will provide an input for improvement of the beneficiaries' infrastructure in line with project requirements.

After the Good understanding of the user requirements, the contractor will prepare detail design including smooth transition plan that describe the solutions to the Needs necessary for the implementation of Speech Analytics, Voice Recognition and interactive answering Systems.

By contractor, Needs Assessment and Design report will be prepared based on the conducted above mentioned activities. It will provide determining and addressing needs between current conditions and desired conditions. The Report will involve identifying material problems/deficits/weaknesses and advantages/opportunities/strengths, and evaluating possible solutions that take those qualities into consideration. This will also include mockups and horizontal recommendations on institutional and technical capacity. In summary, this report intends to coordinate a large developer team under a single vision. The indicative Table of Content of this report could be:

- Introduction
 - Background
 - References to related documents
 - Aim, Vision and design goals
- System Overview
 - System diagram
 - Computing Requirements
 - Software Requirements
 - Software Integration & Interactions
 - HW & SW Needs

- Process Flow
 - Process Flow Charts
 - Use Cases Scenarios and Cases
- Software Design
 - Access to the system
 - General Design of Landing Page
 - Inner Pages
 - Admin Panel
 - Log records,
 - Track backs
 - User interface designs
 - Integration designs
 - Reports
- Data Design
 - Database Design (on the basis of database objects, including table, columns, procedures, functions, the aims and functions of each object etc)
 - Database server installation and configuration
 - Database server service properties
- System Development
 - Software development lifecycle
- Project Management Approach & Methodology
- Information Security
 - Network Security
 - Application and user accounts security
 - Roles and authorization security
 - Web security
 - Database Security
 - Backup, Logging and Disaster Recovery
- Assumptions & Dependencies & Risks & Preventions
- Attachments

Needs Assessment and Design report will be in line with DGMM ICT Policy and current infrastructure.

A draft of the Need Assessment and Design report will be submitted to the IOM and DGMM for comments. After receiving the comments, the final Need Assessment report will be submitted to the IOM and DGMM for final approval.

1. Implementation

In this step, the contractor, based on the Needs Assessment and Design report, in particular the following tasks will be accomplished/implemented into the YIMER 157 current environment:

- The Speech Analytics System will be integrated into the integrated YIMER 157 without problems/errors.
- The Voice Recognition System will be integrated into the integrated YIMER 157 without problems/errors.
- Interactive Answering System will be integrated into the integrated YIMER 157 without problems/errors.

Implementation should follow the smooth transition plan developed in the Needs Analysis Stage.

2. Test

Based on the Needs Assessment and Design report, the purpose of testing stage is:

- To verify the interaction between objects.
- To verify the proper integration of all components of the software.
- To verify that all requirements have been correctly implemented.
- To identify and ensure defects are addressed prior to the deployment of the software.

During the test period, the below testing will be conducted:

- Functionality Test
- Usability Test
- Reliability
- Performance
- Security Test (If needed; this will be done by 3rd party who will be proposed by DGMM, the relevant cost will be provided by contractor).

By contractor, Test report will be prepared based on the conducted above mentioned activities to the DGMM and IOM for comments. After receiving the comments, the final document will be submitted to the DGMM and IOM for approval.

3. Training

In this period of the operation partner trainings and end-user trainings will be provided on the real software environment. In case of writing an extra code related to DGMM in accordance with the infrastructure of DGMM, the relevant code will be delivered to the institution and code trainings will be provided for the relevant code. Trainees shall try out the system and gain experience in this environment. DGMM shall prepare a training environment to be used during the trainings.

The contractor will provide trainers for the trainings below. Trainings will be conducted at IOM or DGMM offices in Ankara. Accommodation, transportation and lunch of the trainers will be provided by Contractor.

The below types of trainings will be provided by the Contractor:

End – user training: These training activities are supposed to be carried out in the premises to be established by the GİGM. Trainers shall be trained under the training programme. These trainings shall take place in Ankara. We assume that 1 days training session will be enough. The exact number of days will be determined at the contracting period with DGMM. Separate trainings for each division should be organized for maximum 20 participants per session, the topics should cover at least:

- Introduction to user interface of the application per user
- Using the systems

Admin Trainings: In order to ensure the sustainability of the system management, the relevant staff in the Beneficiary must be trained. We assume that 1 days training session for each topic stated below will be enough. The exact number of days will be determined at the contracting period with GİGM. The exact number of days will be determined at the contracting period with DGMM. Separate trainings for each division should be organized for maximum 10 participants per session, the topics should cover at least:

- Application Server Management
- Application Development Environment
- System Software
- Data Security, Back-up and Recovery
- Database Management, Querying and Reporting,
- System and Network Technologies
- Regular updating the System
- Troubleshooting
- Support System
- Development of the system,
- Training on DGMM codes.

A draft of the training report will be submitted to the DGMM and IOM for comments. After receiving the comments, the final document will be submitted to the DGMM and IOM for approval.

4. Support and Maintenance

The aim of the support, administration and back-up services will be to assure a reliable system environment and a stable functioning of the platforms and to manage all aspects of the systems security to protect confidential information and existing content and prevent hacks, defacing, etc. **only for the software and/or products -the systems- (Speech Analytics, Voice Recognition, Interactive Answering System) to be delivered under this TOR and contract.**

At this period of the operation, the systems should be fully operational ensuring all the requirements mentioned in this TOR. Fixing the errors, troubleshooting, improving the systems and databases- for better performance (optimizations) and supporting the users on the job will be the missions to carry out in this period.

All requests received from users and the administration within this period shall be satisfied and the development processes shall be continued **in the DGMM and YIMER Premises. No Remote access and/or VPN will be provided by DGMM and/or YIMER.**

A warranty will be simply a formal promise that the product delivered is defect free, meaning that it will do what it promises to do, and that if it fails to do so, how the bidder will go about rectifying defects through the channels as indicated below;

- Problem Reporting Channels
- Maintenance Updates
- Helpdesk Support
- Eligibility to change requests

Support plan that will include procedures for on-site and off-site maintenance during normal hours of operation will be provided, for:

- Back-up procedures
- On-site fault diagnostic technique
- Chat services-Skype/WhatsApp-real time support for the duration of warrant.
- Possible remote fault diagnostic techniques
- Average time to arrive on-site at each system site
- Mean time to repair major system components
- Fault escalation procedures;
- Hours to intervene the failures, in what time that will fix the problems

- Supplier maintenance support facilities
- Establishing Help Desk to give technical support to the users.
- Setting up the principals of the help desk service,
- Informing System Administrators in case of any change, maintenance, fixing activity before and after hand.
- Maintenance logs and Beneficiary’s official authorization.

These support and maintenance activities do not presume the use of any particular software development methodology and provide HW. The support and maintenance process are valid regardless of size, complexity, and criticality, the system products or usage of the system to be maintained. Table below depicts the support and maintenance process stages, providing information regarding the input required for each stage, the process stages itself and the outcome of each stage.

Level	Answering Time ²	Temporary Solution Time ³	Solution Time
• Critic ⁴	45 min / 3 hours	6 hours	12 hours
• High ⁵	1 hours / 6 hours	12 hours	24 hours
• Low ⁶	6 hours / 8 hours	24 hours	36 hours

Table 2: Service Level Operating Chart

The contractor will conduct support and maintenance activities at the period of stated in Section e, Deliverables and Schedules/Expected Outputs. After the period, DGMM and/or IOM may extend the period for 1 year. In this case, the contractor should provide an additional offer (in EUR/USD) for 1-year additional support and maintenance of the systems to be delivered in the financial offer.

In addition; In case that new features for jobs related to software development within the scope of this job description will be requested in this period, DGMM and/or IOM may ask to implement them in proposed man-days by the Contractor. In this case; the contractor should provide an additional offer in EUR/USD) as man-day basis. If this happened, the final source codes of the added features software with code training will be delivered to DGMM.

² It refers to the period from the moment the DGMM notifies the CONTRACTOR to the problem related to the service ("Problem") until the first notification of the CONTRACTOR that she is interested in the problem

³ At the time of notification of the problem to the CONTRACTOR by the DGMM, it refers to the period until the first tried solution service is offered for the CONTRACTOR to continue the operation of the system despite the presence of the problem. Solution time: Refers to the period from the moment the problem is notified to the CONTRACTOR by the DGMM until the CONTRACTOR will resolve the problem. The level of the problem will be decided based on the criteria defined below, and the response, response and solution times will be determined according to the problem level.

⁴ This level includes the situations related to content entry where the content of the wrongly added pages, etc. fields become unreadable due to this addition, the operation of the software is completely prevented and the operation of the system causes major problems.

⁵ This level is more consecutive but the cases in which the content that is under consideration does not work, some of the critical functions do not work or work incorrectly due to the wrong applications performed by the CONTRACTOR

⁶ This level includes cases where the software and the connected system continue to work and are not critical, but some content functions do not work properly or malfunction.

d. Approach and Methodology

Contractors are expected to present their approach, timeline and methodology in their technical proposal. Sound methodologies applicable in the existing circumstances will be given priority.

e. Deliverables and Schedules/Expected Outputs

Deliverables and expected outputs and their timing is indicated in table below.

Deliverables/ Outputs	Indicative Deadlines (Submission)	Review and Approval by IOM Consultation with DGMM in	Indicative Deadlines (post-review)
<u>Inception Report</u>	5th Day	Yes	2nd Week
<u>Needs Assessments</u>	2nd Week	Yes	6th Week
<u>Implementation</u>	6th Week	Yes	22nd Week
<u>Test</u>	22nd Week	Yes	26th Week
<u>Training</u>	26th Week	Yes	28th Week
<u>Support and Maintenance</u>	28th Week	Yes	76th Week
<u>Final Report</u>	76th Week	Yes	77th Week

Table 3: Implementation Schedule

The Reports shall be submitted to IOM and DGMM in Turkish and English in electronic format. Approved Reports will be translated into Turkish by the Contractor.

- The review and approval by IOM with consultation with DGMM will be max 5 workdays. If this max duration will be above of 5 working days (Saturday and Sunday are not considered as working days), this means that the relevant report is approved.

f. Key Performance Indicators and Service Level

The Contractor will continuously monitor the implementation of contract activities according to standard procedures (inception phase monitoring, periodic monitoring and final assessment). Project monitoring and evaluation will be based on a periodic assessment of progress on delivery of specified project results and towards achievement of project objectives.

The Contracting authority will monitor the contract activities and ensure implementation in a timely and efficient manner, in particular through commenting on inception, deliverables, and advising on progress on the delivery of specific project results and towards achievement of project results.

The performance indicators under this assignment are:

- Speech Analytics System is live without Errors and Problems
- Voice Recognition System is live without Errors and Problems
- interactive answering system is live without Errors and Problems

g. Governance and Accountability

The contract will be managed by IOM for the beneficiary which is DGMM. A Committee is going to be established which will be composed of IOM and DGMM representatives. The Committee will meet during the inception phase to be informed about the approach of the contractor and to provide guidance to the contractor for expected outcomes. The Committee will meet on a regular basis during the assessment and lastly upon the submission of the final report to review the findings and recommended road maps.

h. Facilities to be provided by IOM

No facilities will be provided by IOM and DGMM. The Consultant shall ensure that experts are adequately supported and equipped. In particular it shall ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities. It must also transfer funds as necessary to support its activities under the contract and to ensure that its employees are paid regularly and in a timely fashion.

No equipment is to be purchased on behalf of any parties as part of this service contract or transferred to any parties at the end of this contract. Any equipment related to this contract must be acquired by the beneficiary country and must be purchased by means of a separate supply tender procedure.

i. Expected duration of the contract/assignment

The intended period of implementation of the contract will be 7 Months followed by 2-year support and maintenance.

j. Duty Station

The operation and services will be implemented/delivered in DGMM Ankara Premises. All experts are expected to be available in Ankara whenever requested and necessary for project implementation.

k. Professional Qualifications of the Successful Contractor and its key personnel

Key experts

All experts who have a crucial role in implementing the contract are referred to as key experts. The tenderers will submit CVs of Key Experts with proof documents in their proposals.

Key expert 1: Team Leader

Job description

Team leader will have the responsibilities as follows:

- To coordinate the overall management and implementation of the project.
- To be the main contact person for all communication with the IOM and the DGMM,
- To transmit the reports to the relevant authorities.
- To be responsible of management of the team composed of key and non-key experts and allocation of duties among experts for the efficiency and success of the activities
- To ensure timely submission of all operation outputs as required.
- To ensure measurable indicators and determine controlling procedures within sound monitoring and evaluating of operation activities.

Qualifications and skills

- Bachelor's degree in ICT
- Good command of English (speaking, reading and writing)
- Full computer literacy
- Proven research and report drafting skills

General professional experience

- At least 10 years of professional experience
- Experience as a team leader / project manager in at least 2 projects

Specific professional experience

- At least 10 years of experience in ICT Projects.
- At least 5 years of experience in development, support and maintenance of Call Centers
- Experience in Speech Analytics, Voice Recognition and Interactive Answering Systems,
- Experience in Government ICT Project
- Experience and/or familiarity with IOM and/or other UN agencies is considered as an asset
- Working experience with DGMM or other national employment agencies is considered as an asset
- Knowledge and experience on gender mainstreaming is considered as an asset

Key expert 2: Speech Analytics Expert

Job description

The Speech Analytics Expert will have the responsibilities as follows:

- To coordinate the overall management and implementation of Speech Analytics System.
- To be the main contact person for all communication of Speech Analytics System development team with the Team Leader,
- To transmit the relevant reports to Team Leader.
- To be responsible of management of the Speech Analytics team composed of key and non-key experts and allocation of duties among experts for the efficiency and success of the activities,
- To ensure timely submission of all operation outputs as required in terms of Speech Analytics System.
- To ensure measurable indicators and determine controlling procedures within sound monitoring and evaluating of operation activities of Speech Analytics System.
- Needs assessment, design, implementation, test and training of Speech Analytics System

Qualifications and skills

- A university graduate with a bachelor's degree in ICT
- Good command of English (speaking, reading and writing)
- Full computer literacy
- Proven research and report drafting skills

General professional experience

- At least 5 years of professional experience
- Experience as an expert in at least 2 projects that has Speech Analytics Systems.

Specific professional experience

- At least 5 years of experience in ICT Projects.
- At least 3 years of experience in development, support and maintenance of Speech Analytics Systems
- Experience in Government ICT Project

- Experience and/or familiarity with IOM and/or other UN agencies is considered as an asset
- Working experience with DGMM or other national employment agencies is considered as an asset
- Knowledge and experience on gender mainstreaming is considered as an asset

Key expert 3: Voice Recognition Expert

Job description

The Voice Recognition Expert will have the following responsibilities:

- Coordination regarding the general management and implementation of the Voice Recognition System.
- Acting as the main contact person for all communications between the Team Leader and the Voice Recognition System development team.
- Submission of relevant reports to the Team Leader
- Managing the Voice Recognition System team composed of key and non-key experts and distributing tasks among experts in order to ensure efficient and successful activities.
- Delivery of all activity outputs related to the Voice Recognition System as required and on time.
- Making use of measurable indicators and determining the procedures for the control of the Voice Recognition System with a robust monitoring and evaluation mechanism.
- Needs assessment, design, implementation, testing and training for the Voice Recognition System

Qualifications and skills

- Bachelor's degree in ICT
- Good command of English (speaking, reading and writing)
- Complete computer literacy
- proven research and report preparation ability

General professional experience

- At least 5 years of professional experience
- Experience in Voice Recognition Systems in at least 2 projects

Specific professional experience

- At least 5 years of experience in ICT projects
- At least 3 years of experience in the development, support and maintenance of Voice Recognition Systems
- Experience in public ICT projects
- Experience and / or familiarity with IOM and / other UN agencies is preferred.
- Prior experience with DGMM or other national employment agencies is preferred.
- Knowledge and experience in the field of promoting gender equality is a reason for preference.

Key expert 4: Interactive Answering System Expert

Job description

The Interactive Answering System Expert will have the responsibilities as follows:

- To coordinate the overall management and implementation of Interactive Answering System.
- To be the main contact person for all communication of Interactive Answering System development team with the Team Leader,
- To transmit the relevant reports to Team Leader.
- To be responsible of management of the Interactive Answering System team composed of key and non-key experts and allocation of duties among experts for the efficiency and success of the activities
- To ensure timely submission of all operation outputs as required in terms of Interactive Answering System.
- To ensure measurable indicators and determine controlling procedures within sound monitoring and evaluating of operation activities of Interactive Answering System Implementations.
- Needs assessment, design, implementation, test and training of Interactive Answering System

Qualifications and skills

- A university graduate with a bachelor's degree in ICT
- Good command of English (speaking, reading and writing)
- Full computer literacy
- Proven research and report drafting skills

General professional experience

- At least 5 years of professional experience
- Experience as a expert in at least 2 projects that has Interactive Answering Systems.

Specific professional experience

- At least 5 years of experience in ICT Projects.
- At least 3 years of experience in development, support and maintenance of Interactive Answering Systems
- Experience in Government ICT Project
- Experience and/or familiarity with IOM and/other UN agencies is considered as an asset
- Working experience with DGMM or other national employment agencies is considered as an asset
- Knowledge and experience on gender mainstreaming is considered as an asset

Tenderers are encouraged to propose teams respecting gender equality.

Other experts

Senior/Junior experts will be employed full time or part time during the project as required by the contractor.

The Contractor shall select and hire other experts as required according to the profiles identified in their technical proposal and these Terms of Reference. All experts must be independent and free from conflicts of interest in the responsibilities accorded to them. In alignment with IOM's gender equality and women's empowerment values, preference will be given to female experts among experts having comparable skills and expertise.

The selection procedures used by the Contractor to select these other experts shall be transparent, and shall be based on pre-defined criteria, including professional qualifications, language skills and work experience. The findings of the selection panel shall be recorded. The selection of experts shall be subject to approval of IOM and DGMM.

Support Staff & Backstopping:

The Contractor shall assure enough support staff/backstopping support in the course of the duration of the project, such as, contract manager, project secretary, and assistant to experts, translator/interpreter, and financial administrative and logistics assistant to ensure that the project is implemented smoothly and that any problems are rapidly resolved. Contractor should make provision for this in his proposal but does not need to nominate the staff or enclose CVs in the offer.

Backstopping and support staff costs must be included in the fee rates of the experts.

I. Publicity and Visibility

In the course of implementation of all the activities under this contract, as well as those relating to all the information and publicity products that are to be produced under this contract, the Contractor must follow the latest Communication and Visibility Manual for EU External Actions concerning acknowledgement of EU financing of the project (see https://ec.europa.eu/international-partnerships/comm-visibility-requirements_en and https://www.avrupa.info.tr/sites/default/files/2016-08/VisibilityGuidelines_Oct11_TR.pdf) and IOM Branding manual (see https://italy.iom.int/sites/default/files/news-documents/Brand_Guidelines.pdf) and also DGMM Institutional Identity Instructions (see <https://www.goc.gov.tr/kurumsal-kimlik>)

The Contractor and its staff will not make any public statements in regard to the execution of the contract or contract related issues without prior approval of IOM and DGMM.

The Contractor agrees to hold in trust and confidence any information or documents ("confidential information" but also all internal communication), disclosed/discovered or prepared to/by the Contractor in the course of, or as a result of the implementation of the contract, and agrees that it shall be used only for the purposes of the contract implementation and shall not be disclosed to any third party. The Contractor is not to retain copies of any written information or prototypes developed or produced under the contract in its own archive and for its own use. Any products made as part of this contract are exclusive property of the IOM and DGMM and cannot be under any circumstances used by the Contractor.

The Contractor should be aware of the political, diplomatic and legal context prevailing in Turkey and abstain from contacts of a political nature with either community. Should issues relating to the specific political, legal and diplomatic context arise in the preparation and implementation of this contract, the Contractor should inform the Project Manager. The Contractor should ensure confidentiality with no disclosure of the issue to third parties.

The Contractor shall ensure that, in the preparation and implementation of the action subject of this tender, the rights of natural and legal persons, including the rights to possessions and property shall be respected.

No action undertaken by the Contractor in the course of preparation and implementation of this contract should be intended to imply Analysis of any public authority other than the Government of the Republic of Turkey.

m. Attachments

1- TECHNICAL SPECIFICATIONS

- **Speech Analytics System:**

- GENERAL

- Speech Analytics software should have a web-based, easily manageable interface with supporting graphically excel/pdf reporting. Audio recordings should be listened to by querying the recordings through the interface, and the translated versions of the sound recordings should be displayed.
- System can automatically categorize calls and interactions according to call subjects, analyze the most talked about topics in specified time intervals, extract the Call Center call history of customers by giving each customer a special ID, analyze the reason why they called again, all calls falling into the categories to be followed by date and time will be able to sort by.
- The system will have the ability to analyze emotions, analyze by transcribing the sound, and generate an alarm when defined targets are not met.
- The necessary authorization and restriction methods should be possible for reports that can be accessed through the interface. There should be a distinction between administrators and users and these powers will be determined by the Administration and the authority level of all users should be separated by the Administration.
- A log should be kept which user logged into the system, which user performed what actions.
- analyzing by converting all phone calls between the operator and the service recipients to text with the voice-to-text technology at the YIMER call center.
- Producing comprehensive reports by allowing various inquiries to be created in order to continuously evaluate the service quality and to create solutions for service recipients' expectations.
- Creating automatic evaluation forms according to the criteria determined by the institution in order to ensure the continuous improvement, analyzing and scoring of the call center service quality, the performance of call representatives and the competencies of the call center personnel regarding the services provided
- Listing Calls containing words or phrases defined to the system. It should be possible to determine how many times the specified word is used by the representative or service recipients in the interviews made by an elected representative within a certain period of time. These words or phrases should be able to be searched sequentially and / or unordered in call center representative and service recipients' speeches. Banned or nasty words that a representative uses most often should be able to be reported on an agent basis.
- The number of calls received by the operation group, the direction of the call, the number of the dialed or dialed number, gender recognition, the speed of the call representative, the parts where the voice is raised, whether his speech is monotonous, the overlapping ratio of the calls to the caller, the right to speak to the caller, the duration of silence It should be possible to report on the basis of criteria such as (total and proportional).
- When the words to be used together are entered with the conjunction "and" during call analysis; For example, all of the calls with the conjunction "or" in which "notice and complaint" eliminations occur together, and any of these words should be listed.
- Analyzing and reporting feedback on service recipients' expectations, complaints, regulations and innovations for all calls.

- It should be able to be visually displayed in which part of the speech important emotional parameters occur.
 - Interviews should be able to be transcribed and separated into citizen representatives and service recipients.
 - Product should be able to hide sensitive information such as ID, passport number. Masking should be possible in places that should not be heard during calls. It should also be able to make these masks for records poured into text.
 - Integration will be provided with the existing management software and database of Göç.Net and YIMER to make additional queries.
 - The data requested by the DGMM Information Technologies Department will be transmitted to Göç.Net.
 - A digital steel case of at least 85x50x50 in accordance with the standards will be delivered to the institution in order to keep regular data backups to be taken within the scope of support and maintenance.
- POLEMIC CALL ANALYSIS
- It should be able to reach polemical calls involving discussion between the foreign representative and the service user
 - It should be able to define, continuously update and report prohibited words and sentiment analysis that call center representatives in the system and informing administrators as online warning message if the prohibited words used.
 - It should be able to try to identify polemical calls that cause dissatisfaction with the service user by making manual wiretaps via the quality assessment teams of the call center
 - It should be able to reach all of these calls that cause dissatisfaction with the service user and to develop solutions.
 - It should be able to extract and polemically experiencing the subject-based distribution of these calls and produce foreign representative reports, after the querying to detects the polemic calls,
 - It should be able to act service recipients' representatives, who know the ease of accessibility of these calls, more carefully during calls.
- CALL SCENARIO COMPLIANCE ANALYSIS
- According to the previously defined call scenarios, It should be able to determine whether the operator has implemented the call processes correctly (did he say hello and good days or have the legislation information been transmitted correctly etc.) and the ideal acoustic parameters (irritability, monotony, interruption, even waiting time, etc.) automatically score / measure and produce reports
 - It should be able to score the criteria such as the information of the call center's foreign representatives about opening, closing or periodic innovations by analyzing all phone calls.
 - It should be able to automatically report of the compliance of foreign representatives with opening and closing announcements, compliance with the use of prohibited words or compliance with the maximum silence rate in a call by using the criteria set by the call center.
 - It should be able to report of foreign representatives as successful, unsuccessful or open to improvement, and analyzing the training needs of the foreign representative according to these results by quality assessment teams

- SATISFACTION MEASUREMENT
 - It should be able to create queries like ““Service is too slow”, "What kind of help is that?"” in order to understand the dissatisfaction of the call center service users and on what issues these situations occur and also whether the service recipients are satisfied with the service or another subject.
 - It should be able to create the service recipient trend data regarding the new services to be provided by determining the service receivers who are not satisfied with the services provided
 - It should be able to create queries such as "I am very satisfied", "Thank you", issues that citizens are satisfied with about the call center, service or support

- COMPLAINT ANALYSIS
 - It should be able to question the complaint calls of the call center service recipients that contain sentences or phrases such as "I complain about you", "I complain about your institution"
 - It should be able to identify service users with negative reports, problematic or complaining services
 - It should be able to take necessary actions regarding call center services, products or services.

- SPEECH ANALYTICS
 - It should be able to find the reason for the periodic increase in the number of calls of the call center and allow the call center authorities to take the necessary actions.
 - It should be able to ensure that service recipients call the call center related to which unit of the institution or which institution is in the field of interest, and that satisfaction or negative feedback can be reported in these calls.
 - It should be able to give information about the competence levels of the foreign representatives' words or phrases such as "I don't know", "I don't know", "Unfortunately about the subject ..." or the service recipient "How do you not know?", "Don't you know?" by questioning the calls.
 - It should be able to assume the level of knowledge of foreign representatives, using the number of pauses during the call.
 - It should be able to identify the trends in the specified periods and making improvements to these trends, analyzing weekly or monthly changes in calls according to subject distribution.

- OTHER REPORTING REQUIREMENTS
 - It should be able to query according to the desired words and word groups
 - While searching the word group; Searching the whole word group as written should provide options such as searching in the call regardless of the order of the words in the word group and searching for any of the words in the word group. (For example, “my ID card has not arrived”. This group of words can be interrogated in the form of calls in which both words occur or calls occurring in either of these words, regardless of the order, provided that both words occur in the order in which they are written.)
 - It should be able to have ability to query according to the order of the customer and agent speaking, (For example, Customer: thank you, agent: welcome)
 - It should be able to bring calls according to words that can be derived from the root of the word, (e.g., thank you, thank you)

- It should be able to query according to how long after the beginning of the call or how long before the end of the call,
 - It should be able to query according to the word spoken by the operator or customer,
 - It should be able to provide customer and operator sentiment analysis and in which parts of the call these emotional changes occur,
 - It should be able to provide the number of interruptions of the customer and the operator during the conversation, the ratio of talking together
 - It should be able to provide customer and operator silence rate,
 - It should be able to provide actual rate of speech for part or all of the call
 - Reports should be able to be received daily, monthly and weekly on the basis of call representative, call agent group, trunk (international line) groups. (number of calls of call representatives during the day, duration of calls, average call duration, etc.). Reports should be text based. The progress of the reports should be monitored with trend analysis.
- **interactive Answering System**
 - Interactive Answering System will be divided into incoming calls as dial and voice for incoming calls. Voice-to-text conversion technology will be used in operations performed with voice.
 - The structure to be established for the voice response system that will be provided with voice and keypad services; thus, service users should be able to receive service 24 hours a day, 7 days a week.
 - The system should have a human-assisted automatic voice Analysis routing tool.
 - Text synthesis (TTS) technology to be used to read the dynamic data to be transmitted by the system should be understandable and naturally sound.
 - A menu tree defined in the system must be packaged together with language model, training files and all other extensions and taken from the system interface. A package created in this way should be added to an interface in another environment, allowing the model to work in this new environment.
 - The structure to be created for the routing success of the system; For the voice response system, he / she should perceive words spoken in different accents and accents by writing them properly.
 - The system should be able to perceive the customer's request for the customer's utterance or chatbot application by marking it as fixed and variable data, independent of the spelling order and format, and should be able to continue the dialogue until it receives all the information about the transaction.
 - The system should have a module that enables transactions to be performed by extracting meaning (intention) and important information in the text it recognizes
 - The system should be user-friendly, easy to design and a web interface where all transactions can be recorded and reported.
 - The system should support batch text tests where success of navigating to the correct menu is calculated automatically. It should allow these tests to be carried out on the web interface.
 - Batch text tests should support testing the steps of dialogue type prompts that will occur due to their sequential discourse.
 - Aiming to Service users who want to reach the information they need quickly and easily and who do not want to waste time listening to the hard-to-remember options offered by a pre-recorded message.
 - Interactive Answering System will operate simultaneously at a capacity of 200 ports, including natural dialogue, voice-to-text conversion and text-to-voice conversion

technologies; For the chatbot application, a system infrastructure will be established to provide unlimited service from WhatsApp, web and mobile platforms.

- Allowing service users to meet with fast and user-friendly self-service solutions by using Natural Language Processing (NLP) technology to transform IVR systems into systems that allow human-like interaction.
- Enabling service users to interact with the system with natural speech instead of wasting time on dialing.
- Better understanding of the client's expectations and make the right directions by asking additional questions
- Enabling service users to have a practical IVR experience by speaking as if they are people, without being limited to certain expressions, and reaching them the answer to the question they want.

- **Voice Recognition System**

- The voice data of the foreigner will be recorded by repeating a sentence determined by the experts working in the Provincial Directorate of Immigration Administration in 81 provinces (for example, "I am looking to fulfill my obligation to report"). At the same time, this foreigner will be informed in writing from which city he should call and on what day he should call, along with other rights and obligations.
- Person will call ALO 157 Foreigners Communication Center free of charge at the time of notification.
 - When the foreigner calls 157, first of all, the language options will be listed by the robot assistant. (For example: press 1 for English and 2 for Persian)
 - After making the foreign language selection, the sentence "Press... to make a report" will be spoken in the selected language, again by the robot assistant.
 - When the stranger dials this number to make a notification, a signal tone will be given after a command to be spoken in the selected language, such as "Say your sentence after the beep", and then the person will repeat the sentence he said while the voice data is received.
- After the foreigner says his sentence, which was determined when the sound recording was made by the provincial experts, the software will check whether the sound matches and from which city the foreigner is calling (location information). Here we will encounter three scenarios:
 - If the voice matches but the person did not call from the city they should search for; In this case; "Voice information matched but location is incorrect" information will be given to the caller by the robot assistant. In other words, you are fulfilling your obligation to report to the foreigner from a province other than the province where you are subject to the obligation. You are deemed to have not fulfilled your obligation, as you must make this call from the province where you have been subject to liability. Please go to the specified person and search again or apply to the Provincial Directorate of Immigration Administration, where you are subject to the notification obligation for a change of province "and the speech will be ended.
 - If the sound is not matched; (regardless of whether the location is correct or not): In this case; The caller will be informed by the robot assistant that "the voice data is not matched" and the stranger will be asked to repeat the specified sentence. This can be repeated up to 3 times. If the foreigner's voice data is not matched 3 times, the operator will say "Your voice data did not match, you could not fulfill your notification obligation, please apply to the Provincial Directorate of Immigration Administration to which you are subject to notification obligation" and the speech will be terminated.

- If the voice is matched and the person has called from the city they need to call, "pairing successful" information will be given. In this case, the operator would say "You have successfully fulfilled your notification obligation" and the conversation would be terminated.
- Apart from these 3 (three) scenarios, there is also a situation where the foreigner never calls the specified number. This is called the 4th scenario.
- During the process specified in Article 3, that is, while recording foreign voice, repeating the specified sentence and checking whether the software audio data matches or not, the details of the location information to be checked at the same time are as follows:
 - The foreigner is required to search within the provincial boundaries where he is subject to the liability. Since the software of ALO 157, namely YIMER, can already retrieve the location information of incoming calls, the voice recognition software to be provided will be integrated with the YIMER software.
 - In this case, while checking the voice match, the location will also be checked and instantly checking from which city the person makes a call and whether the voice data matches or not, the foreigner will be informed by the robot assistant within the framework of the 3 (three) scenarios mentioned above.
- Whichever of the 4 (four) different scenarios has been realized, this will also be transferred to GöçNet, the institutional closed-circuit software system of the Directorate General of Migration Management. In this way, the staff of the Provincial Directorate of Immigration Administration, who subjected the person to this obligation, will be able to see whether the person has fulfilled his obligation or not on the screen in the GöçNet system.
- The notification to be sent to the GöçNet system can be structured in two ways:
 - Only notification of fulfillment will be dropped. So; A notification like "successful" may be sufficient. This is only possible in the third scenario. (So, both the sound data will match, and the location will be correct)
 - All four scenarios can be viewed on the GöçNet screen:
 - Sound matched; location incorrect (failed)
 - Sound did not match (failed)
 - Sound matched and location correct (successful)
 - Stranger did not call (failed)
- Apart from all these, an automatic message will be sent to the mobile phone number notified to the administration on the day that the foreigner must fulfill the notification obligation. The content of the message is as follows: "You have to make a notification today by calling 157. If you have already made a call and fulfilled your obligation, ignore this message. "