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## **1. BACKGROUND INFORMATION**

### **1.1. Partner country**

Republic of North Macedonia

### **1.2. Contracting Authority**

Ministry of Health of the Republic of North Macedonia;

### **1.3. Country background**

The Republic of North Macedonia, has implemented its own electronic Health register. Within the system, the electronic medical files of patients, are kept and maintained, with the purposes of access as per the needs of medical practitioners, family medical personnel as well as the patients. The system has not been interconnected with other electronic medical systems with other countries before. This gives this project a significant relevance of the achievement, after the realization of the project.

### **1.4. Current situation in the sector**

The everyday needs of the people that travel between The Hellenic Republic and the Republic of North Macedonia are increasing for both the purposes of business, as well as, pleasure. The tourists and business officials both sometimes share the needs for fast acting while abroad, to be able to access and use their medical electronic records, to accommodate and ease the doctors' access to information and data when needed, for proper assessment, in case of medical interventions for foreigners as patients.

Both of the countries have their own electronic Medical Record systems that keep data and information for the history of medical issues for their native patients. With the constant everyday travel, this history is vastly important in the decision making for doctors in a foreign country, in a case of the need of medical examinations and interventions for foreign patients. As of today, the situation of sharing medical data between the two countries is at a minimum. Doctors are only confronted and acquire information from the patients directly. Furthermore, the commuting of people between the both countries has increased within the last few years. Many times the patients from the both countries come across a need to be examined in the foreign country, and doctors may have limited or improper information when making decisions on examination, treatment as well as interventions towards the foreign patient.

To be able to give proper information, ease in making decisions to the medical personnel, and hence, providing proper care to the patient, arises the need for eventual interconnectivity of the Medical Records between the both countries, should that be possible.

This document, will describe the idea, technical capabilities and means of interconnectivity, between the electronic medical records of the patients between the 2 countries.

### **1.5. Related programmes and other donor activities**

Given the perspective of the interconnectivity of the electronic medical record platforms within the 2 countries – The Hellenic Republic as well as The Republic of North Macedonia, the analysis of the project, and the realization (design, architecture and development of the interconnectivity solution) will depend on tasks that include research and implementation of rules, methods and processes dictated by both of the Medical Record platforms in the relevant above-mentioned countries. Additional market research as well as research of the public health sector within both of the countries will be of great importance for the realization of the project.

## 2. OBJECTIVE, PURPOSE & EXPECTED RESULTS

### 2.1. Overall objective

The project HEALTH-INFO is implemented in the frame of the INTERREG IPA Cross Border Cooperation Programme "Greece - Republic of North Macedonia 2014-2020, under the specific objective: "Improvement of preventive health care and social services of children and elderly population". The project is co-funded by the European Union and the National funds of the participating countries.

The purpose of the project is the improvement of the health care system in the Cross border area through the development of a unified informative system that collects the necessary data and support the strategically design of health care providers in both sides of the CB area.

Development of modules for adjusting the national e-health system with E-health platform is interconnectivity software solution of the Electronic Medical Records (EMR). For the practical reasons, in the further text, we will use the term the **Interconnectivity solution**.

The interconnectivity Solution, for the neighboring countries, should implement good practices and innovative ICT-based solutions from the fields of tele-monitoring and personal health records will be elaborated and exploited in order to equip the staff of the envisioned interconnected centres of reference for health issues with appropriate resources and tools to better address the needs of traveling people within the both countries, that would be in need of medical attention, triage, examination. The end users of the solution, the medical personnel will be able to make better decisions in the processes of examination and diagnosis as well as prescription of drugs and therapy, having info and input in the medical dossiers of the patients.

Eventual examinations, interventions and decision making will be based on the relevant and real medical records that are parts of the Medical Record electronic platforms within the two countries.

The project focuses on developing common tools and resources, exploiting the opportunities offered by making smart and effective use of new technologies. A joint cloud platform for offering access to all the data, with the patient's permission, will be implemented by access to the medical records from the public electronic Medical Record systems between the 2 countries. This platform will be connected with a web application also developed by the economic operator for citizens and medical tourists who wish to have access on the move to the Portal's contents. This platform will integrate: (a) an innovative electronic personal health record (EPHR) repository from medical records migrated from the public health systems within the 2 countries, (b) an platform that only keeps data by the medical tourist consent (c) ease of access to data when a medical tourist provides access to their data to the foreign medical practitioner, for the purposes of examination, diagnosis, treatment or decision making overall.

To implement an Interconnectivity Solution for accessible health services which will offer access to medical practitioners to various e-Services, including an Electronic personal health record mechanism for Cross-Border use. The portal will enable editing, updates and maintaining online personal health records, and it should provide scalability. Here, the scalability part, refers to the options to be able to update the electronic medical records of the patients, from the interconnectivity solution towards the relevant Electronic Medical Record of the patient within the electronic system of public health, should further upgrades of the system are needed. Also the solution should be easily integrated and upgradable with other systems, and may upgrade its e-Services should such emerge during latter phases of additional development. An example of such additional eService, would be a mobile application or access to the medical patients to their medical records, should this need emerge.

### 2.2. Purpose

The purposes of this contract are as follows:

- Development of interconnectivity platform for the medical records of patients from The Hellenic Republic and the Republic of North Macedonia, as a whole, which will contain, but not be limited to:

- Development of web services for the data exchange between the electronic medical records of the 2 countries
- Development of centralized database for access to the medical records by medical practitioners from both countries
- Development of a web application for as the UI for the specific access

The economic operator (tenderer) will develop the web services, that provide data to the interconnectivity solution from the electronic medical record systems of the two countries. They will develop the centralized (or cloud) database for safekeeping of this data and provide the means to medical practitioners to access the data with provision from the medical tourists within the 2 countries.

Therefore, interconnectivity solution will:

- interface with the Solution (in order to receive and push data from and to it)
- be in three (3) languages (MK-EN-GR)
- Will support possibility for multilingual (MK-EN-GR) Electronic personal health records.

### **2.3. Results to be achieved by the Contractor**

The contractor needs to achieve the following results:

- Analysis of the requirements of the interconnectivity Solution between the electronic medical records of the Hellenic Republic and the Republic of North Macedonia
- Development of the use-cases of the interconnectivity Solution between the electronic medical records of the Hellenic Republic and the Republic of North Macedonia
- Development of the system and software architecture for the the interconnectivity Solution between the electronic medical records of the Hellenic Republic and the Republic of North Macedonia
- Developed web application for access towards the provisioned medical records of the interconnectivity solution
- Developed web-services for data provision from the electronic medical records from the electronic medical records systems from both countries
- Developed and delivered by the tenderer - plans for maintenance, bug fixing and optimal operation of the the interconnectivity Solution between the electronic medical records of the Hellenic Republic and the Republic of North Macedonia throughout the whole period of the contract;

## **3. ASSUMPTIONS & RISKS**

### **3.1. Assumptions underlying the project**

The project will have in mind the regulation for data privacy within both of the countries. The economic operator will oblige to the proper regulation for data safety and privacy. Provision of access should only be given by the medical traveler to the medical personnel during a medical visit or examination. Data should be safe and secure.

### **3.2. Risks**

Problems with other parts of the Portal might influence the implementation of the contract. There should be a clear and correct analysis of the options to load data within the system, through encrypted web services. Assessment of the availability of access to such data may prove as a potential risk.

Other potential risk might be any communication problems due to the multilingual purposes of the project and a possible inclusion of different international medical and law experts.

Potential risk might be any pseudonymisation and anonymisation of data requirements, according to the GDPR regulations in the Hellenic Republic and the internal laws of data privacy in the Republic of North Macedonia.

## **4. SCOPE OF THE WORK**

### **4.1. General**

#### **4.1.1. Description of the assignment**

This following segment will serve as the technical specification for the means of development and time-estimates of the interconnectivity solution between the electronic Medical Records of the Hellenic Republic and the Republic of North Macedonia.

This segment will provide the means and necessary steps and technical details for the design, architecture and development of the software solution for interconnectivity between the 2 systems. We will also describe the methods of protecting the sensitive data that both of the systems have within the legislative for privacy protection, given the case that there would have to be an exchange of data between both of the systems, as well as the data availability for the users of the system.

This segment will also describe the technical details and the hardware specifications for the interconnectivity system.

It will provide, as well, all the necessary information and steps for the initial analysis and planning before the process of design and development of the interconnectivity software solution.

##### **4.1.1.1. Overview of the Software Solution**

The software solution of the interconnectivity of the Electronic Medical Records (EMR), will be a centralized platform where, with the patients consent, the Electronic Medical Records will be exchanged between the national Medical Record platforms, they will be kept for a period of time, from where, the doctors in both of the countries involved, would be able to access those records to help and enhance their assessment, diagnosis and help the decision making on the treatment of the patients, when commuting between both of the countries.

The Electronic medical records, upon use, with the patient's consent will be available for a limited period of time, or permanently, purged or archived as per the patient's decision, and updated or resynchronized should the patient allow and request.

The solution for the interconnectivity of the Electronic Medical Records should be a web-based platform, where the doctors would have access to read and assess the medical records of the commuting patients, between countries, with the purpose of enhancing their knowledge about the patient's history and known issues within the decision-making process.

The medical data within the system will be provided directly from the EMRs of the two countries, with the consent from the patients through specific web services. The means of data provision within the 2 countries differ. The users from the Hellenic Republic, that should provide their data, will have the opportunity to do so, on their own decision within the native EMR system. The users from the Republic of North Macedonia will be the selected family doctors of the patients. By direct communication with the patient, they will be able to share the medical data of the patient, towards the centralized interconnectivity solution.

After the patient's data should be then, made available in the interconnectivity solution, and they should be accessed by the web interface the system provides, both for doctors within both of the countries.

Any relevant entered data, from the diagnosis, and prescribed therapy as well as the treatment process within the interconnectivity solution, will be then available for interchange with the EMRs should that be needed, as added functionality of the interconnectivity system. This will be described and specified additionally.

#### **4.1.2. Geographical area to be covered**

The Hellenic Republic and the Republic of North Macedonia.

#### **4.1.3. Target groups**

Health professionals in cross border region, with the potential of inclusion of medical tourists and access to their medical record.

### **4.2. Specific work**

#### **4.2.1. Business Processes**

Given the complexity of the two platforms that need to be interconnected in this system (Electronic Medical Records of the Hellenic Republic and the Electronic Medical Record of the Republic of North Macedonia), in this topic of the specification we will describe the main points of the business processes that need to be implemented, for the purposes of interconnectivity.

The solution for interconnectivity will provide a centralized platform, in which the data from the both Electronic Medical Record systems, will be provided within the system in a integrated and centralized manner.

The solution should then provide the medical personnel (doctors, specialists etc) with a user-friendly and easy to learn and use, interface, that will access and read the medical data of the patient, in a foreign country, with their consent.

The solution must also provide protection of the data, within the GDPR standards as well as the legislative standards of both of the countries. The data may only be given access to by patient's consent.

Following are the business processes described in the topics below:

- Data retrieval from the Electronic Medical Record of the Hellenic Republic
- Data retrieval from the Electronic Medical Record of the Republic of North Macedonia
- Data access and usage by the medical personnel
- Administration of the system

#### **4.2.2. Processes of Data Retrieval**

These processes differ according to the legislative and the nature of the systems for Electronic Medical Records within the 2 countries, hence, the need to describe them separately, and provide the details and means of usage of the system, in accordance to the data retrieval.

As the EMR of the Hellenic Republic is built, the patients have access to their records and can share and provide data by their consent. The interconnectivity solution should provide the option, the patient (citizen of the Hellenic Republic) to be able to access the interconnectivity solution and ask from data retrieval to share their medical data, towards the interconnectivity solution, and then implement them within the database structure and the proper web interface for visualization.

As the EMR of the Republic of North Macedonia is built, when the patient visits their family doctor, they should ask for data provision from the EMR system towards the interconnectivity solution, before they travel. The family doctor uses the option to retrieve data towards the interconnectivity solution from the national EMR System.

The data provision from both of the countries' EMRs should be made through web services, and the central point for the query for provision is the interconnectivity solution.

After the interconnectivity solution gets the data from any of the two systems (by web service requests), it should provide a centralized database to store that data. The data is not subject to change so those store data should be always the same as the originally retrieved data within the systems.

The interconnectivity system should provide a parameterized option of a period to keep data visible for. For example if the parameter is set to 30 days the data should be made available to access for 30 days and afterwards should be subject of purge or archiving. Purge or archive as an option should be also a parameterized setting within the system.

The retrieved data would be available within the system for the limited period of time, after which, the patients would have to give a new consent for extended period of time for data access. The retrieved data should be kept safely and never changed. The safekeeping of data should be in accordance to the GDPR standards and the legislative of the both countries.

The provider of the solution should create web services, in accordance of the EMRs of the both countries after a proper analysis of the technology and functionalities they provide. The web services can be created with a suggested technology by the Provider.

The web services should include at least (but not limited to) 2 different services for data retrieval. One should be associated with retrieval of medical records and data from the national Electronic Medical Records system of the Hellenic Republic.

The other should be associated with retrieval of medical records and data from the national Electronic Medical Records system of the Republic of North Macedonia.

#### **4.2.3. Data access and Usage by the Medical Practitioners**

The interconnectivity solution of medical records should be a central place for data and their visualization in a web based application. It should include at least 3 different modes of access for the different users of the system.

One mode of access is for the family doctors from the Republic of North Macedonia. Another mode of access should be the access of the citizens of the Hellenic Republic. And a third mode of access should be the administration mode for the configurations of the system.

The mode of access for the family doctors should be provided in accordance to the usage and the legislative of the existing Electronic Medical Records system in the Republic of North Macedonia. As it stands, the citizens of the Republic of North Macedonia do not have a personalized access to the system. Their family doctors, have access to the medical data of their patients. This being said, for the purposes of the interconnectivity solution, the family doctors should be the ones to access the interconnectivity solution, and have the option to retrieve the medical data from the national system, by their patient's request, towards the interconnectivity solution. The data should be retrieved by a web service, and stored in the interconnectivity solution.

After this data has been retrieved the family doctor should be notified that the transaction has been successful if so, or unsuccessful should an error occur. This way the patient will get the information that their doctor has done the data transaction towards the interconnectivity solution. This data can then be accessed by Greek medical practitioners during a visit of the patient, in the Hellenic Republic.

To access this data furthermore, the medical practitioners in the Hellenic Republic would have to search the proper patient by their citizen number, in case of a medical visit, by the Macedonian citizen in the Hellenic Republic.



The other type of access is by the citizens of the Hellenic Republic, within the interconnectivity solution, using their user account, where they can ask to retrieve their medical data to the interconnectivity solution, from their national Electronic Medical Records system. After they provide the data, they should be made available to access by the Macedonian medical practitioners, during a medical visit of the Greek citizen, by a search from the medical practitioner, provided by the Greek patient.

## **Users and roles**

The system should have the option for creation of user accounts. The user accounts should have information of the name and surname of the person, as well as a unique username and password. They also should implement an email of the user as well as contact information. The system should have the opportunity of optional fields like addresses, cities and countries of citizenship.

The system should provide the option for role creation as well, given the different modes of use. The system should be created in such a way that, the roles should be granted and revoked easily to users. The core roles that need to be implemented are user, family doctor and administrator. Privileges within roles should include (but not be limited to) access, reading and writing of data within the system.

The data retrieved of the Electronic Medical records can be only accessed by medical personnel. Every user can only read their own medical data. Retrieved data should be encrypted for administrators.

Administrators cannot access personal data but can view the audit trail as well as the error log of the system.

## **Medical practitioners' mode**

The system, should **not only** provide read and access rights for the medical practitioners from both countries, but should give the opportunity for the medical personnel, to input data about the diagnosis, prescriptions, treatment as well as the control process of the patients, should this become relevant. This data should afterwards, be kept uniquely for the patient with a unique relation with their citizen number, for further needs and purposes, further visits, as well as any further integration providing data towards the Electronic Medical Record of the both countries.

After log on to the solution, the doctor accesses the medical history and data of the patient by searching the patient's record by their citizen number. The solution visualizes the found patient, and after the medical practitioner chooses their record, they can access their medical history, historical visits of the interconnectivity solution, and the option to provide data about this particular visit.

For the active visit, they can provide diagnosis, from a given dropdown list of nomenclature of diagnosis, or write a new one. They can as well give description of the found issues for the patient, as well as description for the treatment, and advice for treatment. This way they will create a electronic record of the visit. Within this electronic record of the visit, they should be able to then provide the receipts and prescriptions given for the patient, as well as the notes and findings during further patient control visits.

The Medical practitioner should be able to generate and print out reports of the medical visits, diagnosis and treatment, for the purposes of providing information to their patients, for further use.

## **Citizen mode**

The citizens that access the system, are only the citizens from the Hellenic Republic. They have only access to their own data within the system if they have been retrieved. The proper data needed for retrieval should be defined according to the GDPR regulations, within the process of analysis of the project of development of the interconnectivity solution.

The citizens, should have the option to retrieve data from the National Electronic Medical Record system, and give a parameterized number of duration of safekeeping within the interconnectivity solution – in days. After the data has been retrieved, they are saved locally within the centralized database of the interconnectivity system. They are then flagged for expiry by the period of safekeeping parameter. After this period expires, the data is archived and cannot be access by the users of the system. To be able to provide the data, the citizen will have to create a new request for data retrieval and new period for safekeeping

parameter.

When the citizen have their own data in the system, they cannot edit, or write onto them. They have the only access to read their personal data within the system.

#### **4.2.4. Administration of the System**

The system needs to have an administrative mode, where the administrators can follow the work of the system, administer users and privileges, as well as control the audit and logging mechanisms of the system.

The system should have its own administrative mode, where the administrators view the statistics of the usage of the system. Every user action (medical personnel adding and accessing data of patients) should be audited and logged within the system properly. The system should provide the option to record the data about who accessed the data of a patient, where it was accessed from (IP, machine) as well as what actions were executed over that data set (read, write, delete, edit).

This audit trail will be kept in the database of the system. The user should be able to easily read this data as well as generate reports on it, in case of different issues that can arise in the system.

The administrator may create and/or revoke roles and privileges to users. The administrator should be as well able to access read and download the log file for purposes of error reporting as well as control of the access of the different users within their privileges.

The administrator should be able to generate electronic reports of the usage of the system (user access report for a period of time, overload of usage and resources HW and SW, report of audit trail issues found and report and export of the system logs).

#### **4.2.5. Languages**

The system should support and be localized in 3 languages in the UI interface: Macedonian, Greek and English.

The data will be stored in English for the purposes of international clarity. Choosing of the language should be easily visible in the right part of the navigation panel of the web interface. The system should “link” the chosen language to the last session of the user for further sessions. This may be accomplished by cookies or through a language flag within the user account in the database. The user will have the opportunity to change the language when needed. The whole text within the UI should be translated in the 3 languages (languages, tooltips, notifications, messages, error reporting, alerts, descriptions, texts, menus, breadcrumbs, navigations and bars) except for the data within the database.

The Provider of the software solution should describe in their technical documentation, the proper means and technology in which they will implement the UI localization for the purposes of the interconnectivity solution.

#### **4.2.6. Alerting and notifications**

The interconnectivity solution should include its own notifications system. The notifications and system alerts should be transparent and informative towards the users, in regards to their actions, error and reporting as well as interaction with the system.

The actions of data retrieval should be alerted on, as well as any errors the system will encounter regarding improper use and user actions by users.

Given the nature of the system and its technology as a web-based system, it should include notifications via e-mail when a new user is created.

Also user accounts, upon creating should be verified, validated and then enabled. This should be done, by an email upon user registration.

Any errors, of the processes of data retrieval requests that occur within the process should be easily and visibly reported through the system UI.

The users, should as well, get information on input of diagnosis and treatment via e-mail after the medical personnel have input info for a medical visit.

Any error that occurs within the system, should be reported to the user, so they can correct their actions. Errors that occur with systematic operations (read, edit, data retrieval, write and update) should be reported in a log within the system. Any exceptions from the code or bugs, should alerted in the log for the administrators.

During the process of development, the Provider should recognize additional actions within the system that should be subject of alerting as well as notifications via email.

#### **4.2.7. Additional Security Aspects**

The Design and the architecture of the system should ensure the following security measures and policies:

- The interconnectivity solution should use safe data exchange using the HTTPS protocol with included certificate (Secure Sockets Layer v3 or Transport Layer Security 1.0 or newer versions).
- The Provider should develop and implement procedures for data security (given the sensitivity of the data) within the system. These should include (but not limit to) creating backups and implement restore procedures both for the database level as well the web application and the UI versions. The procedures should be properly documented.
- The interconnectivity solution should have database audit and logging procedures within the techniques described in the topics above. These procedures should enable logging, alerting and audit on both database and application level.

#### **4.2.8. Testing and Quality Assurance**

The Provider should engage their own team of experts to test the solution before delivery. The system should be tested with an alpha and beta testing before the user acceptance. The alpha and beta testing should include testing of modules, components, and functionalities as well as the system as a whole. The tests should include separate tests of the web services for data retrieval, user testing, the modes of work, as well as the logging and alerting/notification systems. The tests scenarios should include the medical personnel usage and data input. Any reports and the generation of such should be as well tested and approved before delivery.

**The test reports should be delivered together with the technical documentation of the system before delivery.**

#### **4.2.9. Licensing and Additional Components**

The Provider, should make sure that all the licensed products used as a part of, or as plug-ins as an integral part of the interconnectivity solution, are on their cost, calculated within the financial offer. If a specific service is included as a part of the solution, and is required for its proper functioning, should be calculated in the financial offer, as one-time pricing for the solution.

The Provider, within their offer should provide a 3 (three) day online (webinar/workshop) training for end users.

The Provider, within their offer should provide a 12 months guarantee of the software's proper functioning and support for problems over email ticket system.

#### **4.2.10. Plan for the Development of the Solution**

The Provider should include in the offer, a proper plan for the analysis, design and the development of the interconnectivity solution. They should describe the techniques and component of the solution as well as the plan of their development from the phases of analysis until realization.

During the implementation of the plan, and within the phases of analysis and development, the Provider should consult the client for the definition and proper functionality analysis and creation as well as report periodically on the status of development.

### **4.3. Project management**

#### **4.3.1. Responsible Body**

Ministry of Health; 50 Divizija 14, 1000 Skopje; Republic of North Macedonia.

#### **4.3.2. Management structure**

The project HEALTH-INFO is implemented in partnership between the partners from Greece and Republic of North Macedonia. The leading partner is the National Organization for Health Care Services Provision from Greece. The other partners are: P2 – International Hellenic University, P3 – General Hospital of Pellas - Hospital unit of Edessa, P4 - Ministry of Health of Republic of North Macedonia, P5 - Public Health Institution - General Hospital Gevgelija, P6 - PHO Clinical hospital Bitola.

Management structure within the Ministry of Health: Project Manager of the HEALTH-INFO and the Minister of Health.

#### **4.3.3. Facilities to be provided by the contracting authority and/or other parties**

The offices of the economic operator shall represent the location of the project development. We may require for the economic operator to provide a testing environment where the development version of the solution will be deployed for testing and presentation purposes as well as reporting, during development.

## **5. LOGISTICS AND TIMING**

### **5.1. Location**

The economic operator (tenderer) chosen, will need to designate their own offices for the development of the technical solution described in this Terms of Reference document.

### **5.2. Start date & Period of implementation of tasks**

The intended start date is **31.03.2021** and the period of implementation of the contract will be **50 days** from this date. Please see Articles 19.1 and 19.2 of the special conditions for the actual start date and period of implementation.

## **6. REQUIREMENTS**

### **6.1. Staff**

Note that civil servants and other staff of the public administration of the partner country, or of international/regional organisations based in the country, shall only be approved to work as experts if well justified. The justification should be submitted with the tender and shall include information on the added value the expert will bring as well as proof that the expert is seconded or on personal leave.

#### **6.1.1. Key experts**

Key experts are defined and they must submit CVs as part of the documentation within the offer.

Although the contracting will be towards the chosen company as economic operator, the CVs of the suggested experts of the team for realisation and development will be part of the quality assessment of the offer.

Here are the relevant types of experts that will bring positive points in the assessment and will be regarded as good addition to the suggested team, but they will be not necessarily marked as required for the project:

#### **Expert 1: Project manager with relevant experience in project management in the public sector**

Qualifications and skills

- At least University degree in IT or engineering or related field (where a university degree has been awarded on completion of a minimum 4 years of study in a university or equivalent institutions)
- Excellent written and spoken English

General professional experience

- Minimum 5 years of working experience with managing IT projects and activities. Public sector IT projects will be advantage.
- Minimum 3 years of working experience with e-Health systems

Specific professional experience

- Minimum experience with development or operational support of at least 1 e-Health system

#### **Expert 2: e-Health expert**

Qualifications and skills

- At least University degree in IT or engineering or related field (where a university degree has been awarded on completion of a minimum 4 years of study in a university or equivalent institutions)
- Excellent written and spoken English

General professional experience

- Minimum 3 years of working experience in the field of e-Health systems. Public sector IT projects will be advantage.

Specific professional experience

- Experience with research related to e-Health systems

### **Expert 3: Cloud computing expert**

#### Qualifications and skills

- At least University degree in IT or engineering or related field (where a university degree has been awarded on completion of a minimum 4 years of study in a university or equivalent institutions)
- Excellent written and spoken English

#### General professional experience

- Minimum 5 years of working experience in the field of cloud computing. Public sector IT projects will be advantage.

#### Specific professional experience

- Experience with research related to cloud computing systems

### **Expert 4: Business analyst**

#### Qualifications and skills

- At least University degree in IT or engineering or related field (where a university degree has been awarded on completion of a minimum 4 years of study in a university or equivalent institutions)
- Excellent written and spoken English

#### General professional experience

- Minimum 5 years of working experience with analysis and/or implementation of IT projects and activities. Public sector IT projects will be advantage.

#### Specific professional experience

- Experience with research related to cloud computing systems

All experts must be independent and free from conflicts of interest in the responsibilities they take on. They may be employed in the company chosen as the economic operator, or engaged on part-time external experts by the economic operator with a proper agreement for the purposes of this project or otherwise.

#### **6.1.2. Other experts, support staff & backstopping**

CVs for experts other than the key experts should not be submitted in the tender but the tenderer will have to demonstrate in their offer that they have resources of enough employees - at least 10 within their company for the creation of the development team. The economic operator may select and hire other experts as required according to the needs.

The costs for backstopping and support staff, as needed, are considered to be included in the tenderer's financial offer.

#### **6.2. Office accommodation**

Office accommodation for each expert working on the contract is to be provided by the economic operator (tenderer).

#### **6.3. Facilities to be provided by the Contractor**

The contractor shall ensure that experts are adequately supported and equipped. In particular it must 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 their work under the contract and to ensure that its employees are paid regularly and in a timely fashion.

The Contractor must provide all hardware and software requirements for the development and testing environment of the software developed under this contract. Also they will need to provide a proper environment of Hardware and Software according to the specifications, or paid cloud environment, after the development stage, for the go-live environment (production) of the solution.

#### 6.4. Equipment

No equipment is to be purchased on behalf of the contracting authority / partner country as part of this service contract or transferred to the contracting authority / partner country at the end of this contract. Any equipment related to this contract which is to be acquired by the partner country must be purchased by means of a separate supply tender procedure.

### 7. REPORTS

#### 7.1. Reporting requirements

The Contractor will submit the following reports in English in one original and 1 copies:

- **Inception Report:** of maximum 12 pages to be produced **after ten days** from the start of implementation. In the report the Contractor shall describe e.g. initial findings, progress in collecting data, any difficulties encountered or expected in addition to the work programme and staff travel. The Contractor should proceed with his/her work unless the Contracting Authority sends comments on the inception report.
- **Interim report:** of maximum 15 pages (main text excluding annexes) with reference to the results described in section 2.3. The deadline for sending the interim report is **30 days** after start date of contract and is subject to approval by the contracting authority.
- **Draft final report:** of maximum 20 pages (main text, excluding annexes) with reference to the results described in section 2.3. This report shall be submitted **50days/** end of the period of implementation of tasks. The report shall contain a sufficiently detailed description of the different options to support an informed decision on the e-Prescription and e-Referral systems. The detailed analyses underpinning the recommendations will be presented in annexes to the main report. **The test reports should also be delivered together with the technical documentation of the system before delivery as specified in section 4.2.8**
- **Final report:** with the same specifications as the **Draft final report**, incorporating any comments received from the parties on the draft report. The deadline for sending the final report is **15 days after receipt of comments on the draft final report**. The report shall contain a sufficiently detailed description of the different options to support an informed decision on the e-Prescription and e-Referral systems. The detailed analyses underpinning the recommendations will be presented in annexes to the main report. The final report must be provided along with the corresponding invoice.

#### 7.2. Submission and approval of reports

The reports referred to above must be submitted to the Project Manager identified in the contract. The Project Manager and officer/person in charge nominated by the Minister, will be responsible for approval of the reports.

### 8. MONITORING AND EVALUATION

#### 8.1. Definition of indicators

Key performance indicators of the success of this contract will be the acceptance of the output from the contract by the contracting party and the project.

## **8.2. Special requirements**

Not applicable