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# BACKGROUND INFORMATION

## Partner country

The Republic of Serbia

## Contracting authority

Development Agency of Serbia

## Country background and

## Current situation in the sector

Low competitiveness of Serbian enterprises is a result of challenges of the business environment faced by private sector. The Government has taken a comprehensive approach in addressing these challenges, aiming to reduce administrative costs by 15-20% until 2020. This resulted in a significantly improved ranking in the Doing Business Report, from 91st in 2014 to 48th place in 2018. More than 100 administrative fees have been abolished and it was made easier to deal with construction permits. Starting a business has been made simpler, the reliability of the land administration system was strengthened and enforcing contracts was made easier.

One of the elements of the business environment seriously affecting the competitiveness of Serbian enterprises is limited access to affordable finance. Over 69% of companies interviewed in USAID’s Serbia Business Survey 2017 reported that they did not borrow to finance operations and growth. According to the same Survey, 84% of SMEs are financed from their own sources. The situation is particularly worrisome for small companies. The financing gap based on the potential demand from, for example, micro enterprises in Serbia, is estimated between 938 – 1,036 EUR million. The micro-financing and venture capital investment are impeded by lack of legal framework, and the unfavourable offer of loans by the banking sector is caused by high requirements for collateral, low credit rating and limited transparency of financial statements of the loan applicants. Lack of affordable financing is preventing Serbian enterprises to modernize their production and to invest in innovation and commercialisation, resulting in low productivity with only 9.2 % of manufacturing having high and medium high-technology products. This affects SMEs and particularly small companies with, for example, companies in the field of textiles, on average, using 35 years old machinery, followed by companies from the machine industry with equipment that is 34.5 years old . Equipment, tools and other productive resources are the most obsolete in the region of southern Serbia (41 years) and the least obsolete in the region of Bačka (18.5 years) and in Belgrade (20.5 years). Consequently, SMEs have less chance of producing high quality products able to compete on international markets on the basis of quality, quantity and unit costs.

The Competitiveness sector as a whole received EUR 1.782 billion of budget funds in the 2015-2018 period, which amounts to average of 5.78% of the total budgetary funds allocated to all sectors. In regard to the origin of resources, the Competitiveness sector was predominantly funded by allocation of the internal (national) resources. The funding from the internal resources amounted to 1.318 EUR billion, relative to 200 EUR million funding from the external resources. In the structure of external funding, international loans generally dominated over international donations and EU assistance. The disbursement rate of the loans is 71%, which is the second highest disbursement rate among all other sectors. The largest amount of funds was allocated to Entrepreneurship and Competitiveness, and Research and Development and Innovation. Over the four years, 78% of total funds for the sector were allocated for these areas, showing the Government’s strategic commitment towards private sector support and the knowledge-based economy. In the 2015-2018, EUR 70 million were allocated for that purpose. In 2019-2021, it is planned that the sector receives EUR 1.376 billion of total allocations for all sectors. In the forthcoming three years, 9% (or 57 EUR million) of the internal resources allocation for the Entrepreneurship and Competitiveness will be directed for the development of entrepreneurship. It will include support to SMEs to purchase equipment, invest in business operations and increase competitiveness of their products and services.

As part of the comprehensive approach, Serbia needs to continue to improve access to finance to SMEs and diversify existing funding mechanisms.

The sector strategy covering the Action relevant to the Terms of reference is **Strategy to support the Development of SMEs, Entrepreneurship and Competitiveness (2015-2020) (SME Strategy): Pillar 1**: Improvement of business environment Dimension 1: Establishment of stimulating regulatory framework in accordance with demands and abilities of SMEs **Pillar 2**: Improvement of access to sources of funding Dimension 3: Improvement of the ability of SMEs to access various sources of funding; **Pillar 4**: Enhancing the sustainability and competitiveness of SMEs Dimension 1: Improvement the efficiency of the institutional support to business operations and development of SMEs and entrepreneurship Dimension 3: Improvement the functionality of the national innovation system.

## Related programmes and other donor activities

“IPA 2019 – Direct Grant to the Development Agency of Serbia – Scaled up and technologically improved production capacity solutions among micro and small enterprises and entrepreneurs”, ref. 19SER01/601/21 (hereinafter: Action) is a part of the Country Action Programme for the Republic Serbia for the year 2019-EU Support to Competitiveness, Research and Development and Innovation. Jointly with other actions from the Country Action Programme it will contribute to its overall objective to increase the competitiveness of the Serbian economy. Specifically, it addresses the need to strengthen the private sector’s impact on the economy by increasing its business efficiency and their share in turnover, GDP and profitability. Through providing financial support for purchasing of new equipment, the Serbian companies will be more competitive and that leads to an increase in competitiveness of the Serbian economy. Regardless COVID-19 related support instruments, there are several national and regional EU funded project and initiatives which are relevant for improving access to finance for SMEs and with whom the proposed Action have supplementary scope and development approach. The Western Balkan Enterprise Development and Innovation Facility (WB EDIF) is improving access to finance for SMEs through its Equity (ENEF and ENIF), Lending (Regional Competitiveness Programme) and Guarantee instruments (GF I, GF II and „EU for Serbia –financing for SMEs”). Total funding for Serbia so far is more than EUR 205 mil and more than 1 200 SMEs benefited from the interventions. Nevertheless, instruments of this platform mostly support loans for working capital, equity investments or loans for upgrading production processes to EU standards in the fields of environmental protection, product safety and quality and occupational health and safety. Some instruments from WB EDIF have been extended at national level in Serbia: through “EU for Serbia – Finance for SME” (IPA 16) - 20 mil EUR for favourable loans for SMEs is allocated, while “EBRD SME Competitiveness Support Programme” got additional 10 million EUR funding for Serbia from the IPA 18 allocation. Important positive influence in terms of boosting banks credit activity towards SME sector have guarantee schemes financed from EU programs, i.e. COSME, EaSI and InnovFin. As already stated, the Action represents scaling up of well-established national PEP which has been developed with the support from USAID BEP program, while MIS software has been acquired with support from German bilateral co-operation.

# OBJECTIVE, PURPOSE & EXPECTED RESULTS

## Overall objective

The overall objective of the project of which this contract will be a part is as follows:

Action “IPA 2019 – Direct Grant to the Development Agency (Action) of Serbia – Scaled up and technologically improved production capacity solutions among micro and small enterprises and entrepreneurs” shall contribute to increased competitiveness of the Serbian economy by supporting investment of micro, small and medium enterprises in modernization of production equipment and expansion of production.

The specific objective of the Action is to increase business efficiency of Serbian SMEs. In addition, action will strengthen capacities of national institutions to run complex development programs in future, funded from national or EU funds and provide inputs for adjustment of portfolio of support programs towards post-Covid recovery and longer - term development needs.

## Purpose

The purposes of this contract are as follows:

* To contribute to successful achievement of the purpose of the Action, which is to provide scaling up of very successful national Program for Purchase of Equipment (PEP). Trough providing financial support for purchasing of new equipment, the Serbian SMEs will expand and technologically improve production capacity which would lead to an increase in competitiveness of Serbian SMEs and consequently economy as whole;
* To provide Contracting Authority and Final Beneficiary, with technical assistance, expertise and consulting in the field of maintenance of Management information system (MIS), with the aim of enabling uninterrupted implementation of PEP;
* To ensure that reporting, analysis, audit and monitoring of the elements of PEP programme’s processes are carried out through a unified system (accessible to all stakeholders) which shall provide an automated reporting and monitoring system, and an efficient audits and data analysis system;

## Results to be achieved by the contractor

* Full support to the contracting authority by the contractor in achieving results of successful implementation of the Action activities in the scope of maintenance and upgrade of MIS provided;
* Maintenance of MIS provided;
* Technical assistance related MIS upgrade and maintenance provided;
* Adjustments of MIS in line with relevant PEP decree and e-Government provided;

# ASSUMPTIONS & RISKS

## Assumptions underlying the project

* Existence of sufficient and efficient absorption capacities for EU funds within contracting authority administration and relevant stakeholders;
* Timely and efficient cooperation of all involved stakeholders and experts;
* Relevant legislation remains unchanged;

## Risks

* Global trends in changes related to interest rate;
* Lack of interest of sub beneficiaries in post-COVID period;
* Lack of interest of the financial intermediaries in post COVID period;
* Insufficient time to deliver and implement recommendations in time for PEP 2022 and other PEP relevant programmes.

# SCOPE OF THE WORK

## General

### Description of the assignment

#### Action (Direct Grant)

Development Agency of Serbia (RAS) and Ministry of Economy (MoE) have been awarded direct grant from IPA 2019 Programme - “IPA 2019 – Direct Grant to the Development Agency of Serbia – Scaled up and technologically improved production capacity solutions among micro and small enterprises and entrepreneurs” in 2021. The duration of implementation of Action (i.e. grant) is foreseen to be 48 months.

Purpose of the Action is to provide scaling up of very successful national program Programme for purchase of equipment (PEP), which has been implemented in partnership with commercial banks and leasing companies for several previous years. Action will enable more favourable financing terms for SME investment loans, in terms of lower interest rates offered by the banks and elimination of hard collateral (i.e. mortgage), as requested collateral. Hence, it will support recovery of investments in SME sector after COVID-19 slow-down of the project. Trough providing financial support for purchasing of new equipment, the Serbian SMEs will expand and technologically improve production capacity which would lead to an increase in competitiveness of Serbian SMEs and consequently economy as whole.

Action shall be implemented through three main Components:

* **Component 0 – Management of the Action**;
* **Component 1 – Implementation of PEP**;
* **Component 2 – Implementation of Technical Assistance Support**.

**The Component 0** - **Management of the Action**, includes activities regarding project

management process, procurement of external expert’s services and program related supplies, with the aim to achieve the purposes and the objective of the Action. The procurement of external experts’ services subject to this Contract “External provider for upgrade and maintenance of RAS Process management system (PMS)” is envisaged under this component.

**The Component 1** – **Implementation of PEP**, comprises the implementation of the PEP programme in 2022 and the Program (PEP) Public Call.

The following activities under the Component 1 are envisaged:

* **A1 -** Establishment of the legal basis for annual PEP cycle, i.e. adoption of a relevant Decree by theGovernment of the Republic of Serbia;
* **A2 -** Implementation of the CfP (Call for Proposals) for the banks and leasing companies and contracting of shortlisted banks/Leasing Companies;
* **A3 -** Launching CfP (Call for Proposals) for grant beneficiaries and outreach
* **A4 -** Submission of grant applications together with credit/leasing requests and evaluation;
* **A5 -** Contracting of sub-grant beneficiaries;
* **A6 –** Payment;
* **A7-** Monitoring of sub-grant beneficiaries and reporting[[1]](#footnote-1);

**Component 2** - **Technical Assistance Support**, comprises technical assistance related to supporting, institutional strengthening and capacity building of the MoE and RAS, necessary for the smooth implementation of the PEP. Implementation of activities related to “External Provider for Management Information System (MIS)” is envisaged under this component.

#### MIS - Management Information System

MIS is general information system that supports PEP implementation. It consists of all necessary data that are used within PEP implementation, i.e. from the phase of PEP launch, until its reporting phase. With the support of German bilateral co-operation (GIZ), MoE has developed a Management Information System (MIS) for PEP, which was launched in 2020 and which serves as central system for enabling digital processes of PEP’s application submission, evaluation and monitoring.

The existing MIS is supporting all processes that include:

- Receiving and processing Requests of potential users in electronic form by an authorized person of the bank/leasing company using the appropriate web application that is an integral part of the Ministry's software system;

- Verification and certification of the Request by a person authorized to check the completeness of the Request before electronic submission to the Ministry's commission;

- Commission decision-making and automatic generation of all necessary documents for Requests in all possible statuses;

- Contracting and recording the placement of funds and the beginning of the implementation of contracts with users;

- Monitoring the implementation of contracts with users and recording all possible changes during the implementation of the contract;

- Controlling and recording the fulfilment of obligations by the user through controls prescribed by the rules of the Program itself.

The IS Ministry's software applications are equipped with tools that enable automatic download of data from other state authorities (APR, Tax Administration, CROSO), which speeds up Request processing as much as possible and reduces the possibility of any error when processing requests and performing other activities during implementation.

**More detailed description of the existing relevant IT systems in place in MoE is provided in the Appendix to this ToR.**

In the previous period, MoE has applied certain upgrades of the MIS. MoE needs an additional upgrade of the MIS related to technical scope and maintenance. This regular portal upgrade and maintenance are necessary for ensuring uninterrupted operation of MIS. Upgrade is necessary due to the increase in volume of applications and sub-grant beneficiaries under PEP, as well as the need for more detailed reporting on the results and impacts. Additionally, this will expedite future reposting, expenditure verification and audit of the Action.

### Geographical area to be covered

The contract shall be implemented in the Republic of Serbia.

### Target groups

Key target groups of this contract are employees of RAS and MoE and to limited extend partner financial institutions.

## Specific work

Specific work elaborated under this ToR shall enable the following:

* Maintenance of existing MIS
* Adjustment of the system based on the relevant regulation for implementation of PEP
* Improvement of the system in accordance with the development of E-Government (E-office, E-Inboxes and E-signing). Harmonization with already existing e-government services
* Implementation of capacity building programme for MoE staff following the PEP implementation through organization of several sets of training sessions on selected topics;

**Activity 1. Maintenance of existing MIS**

The Contractor shall provide maintenance of MIS which shall cover the availability of all new sub-versions and versions of the software system that appear within the period of 24 months from the entry into force of the contract subject to this ToR, and shall enable the correction of errors and inconsistencies that appear when using the system.

**Activity 2. Technical support**

**Activity 2.1.** **Technical support services**

Technical support shall include the provision of unlimited service to users of the system in order to ensure its correct functioning and use within 24 months from the entry into force of the contract subject to this ToR. Technical support will be provided via e-mail by a representative of the Contractor, on working days, during regular working hours from 08:00 to 16:00 CET.

**Activity 2.2.** **Training of End Users**

The Contractor shall provide training of end users of the system at the request of the MoE. Training can be conducted physically or online and will be supported by updated user guides. The Contractor shall provide the training for at least 6 memebrs of MoE staff in training sets agreed with MoE during the implementation of the contract subject to this ToR.

Contractor will provide trainers/experts for all trainings, as well as complete training material for participants.

Contractor is obliged to develop and provide entire training material in Serbian and in English language, if requested by contracting authority (user manuals, guidelines, etc.) All training materials should be available for use after the completion of the contract subject to this ToR (hard copy and on line versions). Contractor shall prepare a report after each implemented training, consisting of complete training material provided, lists of participants, training evaluation lists and short description of activities. This report shall be submitted not later than 7 days after the end of each training/team capacity building session.

**N.B.** The dynamics of the specific work and related activities shall be clearly defined and specified in the form of Work plans which will cover the period of 6 months of implementation. The contractor shall provide a progress report covering the 6-monthly implementation period.

### Visibility

The Contractor shall ensure the sustainability and dissemination ofcontract results. The contractormust comply with the latest Communication and Visibility Manual for EU External Actions concerning acknowledgement of EU financing of the project (see <https://ec.europa.eu/europeaid/communication-and-visibility-manual-eu-external-actions_en> ).

The compliance with this shall be an important aspect of all the activities listed under this ToR and contract and the contractor shall include in its reporting what have been accomplished with reference to issue of visibility.

## Project management

### Responsible body

Development Agency of Serbia

### Management structure

The overall team for implementation of the Action from which this contract is financed is comprised of:

**Development Agency of Serbia (RAS)** is the beneficiary of the direct grant and it is in charge of overall management and implementation of the entire Action. For the overall management of the Action, RAS has appointed high-rank official to act as Project manager. Project manager relies on the support of RAS working group tasked with project management activities, as well as the team of individual experts, RAS Procurement unit and RAS. Financial unit shall support the implementation of Action as well. Staff from IPA Unit of the MoE also provide support to the Project manager. **RAS shall present a Contracting Authority** for contacting services subject to this ToR.

**Ministry of the Economy (MoE) is the co-applicant** **of the direct grant (Action).** Ministry of the Economy (MoE)is owner of the MIS and legal and procedural aspects of the PEP are under the MoE jurisdiction. MoE will be leading party for the implementation of activities subject to this ToR, and shall take the role of the **Final beneficiary of services** subject to this ToR.

**Project Steering Committee (PSC)** is established to perform overall monitoring and steering of the implementation of the Action.

The overall team for implementation of the the contract subject to this ToR shall be comprised as follows:

**Ministry of the Economy shall appoint a Project Manager (MoE Project manager)** who will, with the support of MoE team, be responsible for the daily (administrative and technical) management and monitoring of the implementation of the contractsubject to this ToR, in line with contract provisions. The Contractor shall be in direct communication with MoE Project manager and shall receive guidance and feedback on the implementation of relevant activities from him.

**MoE Project manager** shall be responsible to provide verification or a “no-objection” statement to the Contracting Authority regarding the reports provided by the Contractor, Contractor’s payments and the Contractor’s performance on the basis of continuous monitoring of and active participation in the implementation of the contract. More specifically, the roles of MoE Project manager and its supporting team shall be, inter alia include:

* To guide the Contractor in achieving their tasks;
* To ensure timely achievement of activities and results as set out in this ToR;
* To coordinate, supervise and monitor progress of the contract tasks;
* To mobilise whenever needed the inputs and contributions of all stakeholders;
* Provide an opinion and recommendation related to strategic issues regarding contract implementation;
* To guide the Contractoron technical matters, including relevant technical and working papers submitted by the Contractor, as appropriate;
* To assess the Contractor’s performance, provide “non-objection” statement on the Inception, Interim and Final reports and other prominent reports presented under this ToR;
* To jointly discuss any critical points, risks or bottlenecks of contract implementation and to propose and discuss remedies in case of problems;
* Provide guidance on contract issues which could compromise the success of the contract;
* Reconcile differences in opinion and approach, and resolve disputes arising from them;

**RAS Project manager** shall support the overall monitoring and supervision of the contract and shall inter alia:

* Provide guidance to MoE related to critical points, risks or bottlenecks of contract implementation (as appropriate, and if requested by MoE)
* Assist MoE in the evaluation of contract risks and project risk management approaches, as appropriate;
* Be responsible for final endorsement of Contractor’s outputs, reports, payments and relevant administrative contractual documents, based on the MoE Project manager’s “non-objection” statement.

# LOGISTICS AND TIMING

## Location

Republic of Serbia

## Start date & period of implementation of tasks

The intended start date is December 2022 and the period of implementation of the contract will be maximum 24 months from this date. Please see Articles 19.1 and 19.2 of the special conditions for the actual start date and period of implementation.

The contracting authority reserves the right to extend the contract (in accordance with EU PRAG procedures) in duration and/or scope subject to the availability of funding (being procured by a negotiated procedure), up to a maximum not exceeding the length and value of the initial contract. Any extension of the contract would be subject to satisfactory performance by the Contractor***.***

# REQUIREMENTS

## 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.

### Key experts

Key experts are not required.

### Other experts, support staff & backstopping

CVs for experts other than the two key expert’s should not be submitted in the tender but the tenderer will have to demonstrate in their offer that they have access to experts with the required profiles. The contractor shall select and hire other experts as required according to the needs. 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 costs for backstopping and support staff, as needed, are considered to be included in the tenderer's financial offer.

## Office accommodation

Office accommodation for each expert working on the contract is to be provided by the contractor.

Contracting authority currently supports adaptability to remote work conditions according to COVID conditions.

## 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.

## 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.

# REPORTS

## Reporting requirements

The contractor will submit the following reports in English language in one original and one copy. In addition to any documents, reports and outputs specified above, the contractor shall provide the following reports:

|  |  |  |
| --- | --- | --- |
| **Name of report** | **Content** | **Time of submission** |
| Inception Report (recommended max. number of pages is 12 excluding annexes)  | Description of 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. | No later than 1 month following contract commencement day. |
| Progress Report | Short description of progress and activities/outputs delivered subject to this ToR and relevant Work package, including problems encountered and planned work for the next 6 months.  | No later than 10 days after the end of each 6-monthly implementation period. |
| Draft- Final and Final report | Description and summary of all activities and aspects of the implementation (technical, administrative and financial) including problems encountered and recommendations during overall implementation period considering ToR and technical and financial offer. Final report should be accompanied with the final invoice of the balance and documentary evidence of the outputs delivered.  | Draft Final report - No later than 1 month before the end of the implementation period. Final report - Within 10 days upon receiving comments on the draft of Final report. |

## Submission and approval of reports

Reports defined in the section 4.2. Specific Work of this ToR, shall be submitted to MoE Project manager and copied to RAS Project manager. The reports must be written in English language.

**The MoE Project Manager** identified in the contract is responsible for approving the contractor’s reports.MoE Project manager shall be responsible to provide verification or a “no-objection” statement to the Contracting Authority regarding the reports.

**RAS Project manager** shall be responsible for final endorsement of the reports based on the MoE Project manager’s “non-objection” statement.

Two hard copies of the approved reports referred to above must be submitted to the MoE and RAS Project managers identified in the contract, together with the electronic version on flash drive or appropriate electronic memory media.

# MONITORING AND EVALUATION

## Definition of indicators

The tenderers are expected to propose a set of relevant indicators within their technical proposal (organisation and methodology section). All indicators should correspond to the results specified under section 2.3.

The Contractor should obtain all information about project progress and its implementation on request from Contracting Authority.

For monitoring project progress the Contractor will propose a set of relevant indicators in its technical proposal (organization and methodology section) which may be updated and agreed upon with the Contracting Authority during the inception phase of implementation of contract and periodically during project implementation as may be required. A good indicator should be readily quantifiable, well defined and relevant to the objectives of the project. It should be supportable by readily available data which should be capable of being accurately updated on a regular basis. The Contractor shall apply relevant indicators to all the tasks of the project, in order to control the progress of the project and to anticipate risks and constraints. Logical framework should be part of the proposal submitted by the Contractor, and shall set out in a systematic and logical way the project objectives and the relationships between them, the procedures for checking whether these objectives have been achieved, and the assumptions and factors outside the scope of the project which may influence its results.

## Special requirements

N/A

# Abbreviation Dictionary

|  |  |
| --- | --- |
| RAS | Development Agency of Serbia |
| SME | Small and medium Enterprises |
| MoE | Ministry of Economy |
| PEP | Programme for purchase of equipment |
| CfP | Call for Proposals |
| IPA | Instrument for Pre-Accession Assistance |
| ToR  | Terms of References  |
| MIS  | Management information system |

# Appendix I

**Description of the implemented UniDocs information system for document and business processes managing for the MoE of Serbia - SME Support Programmes**

1. **Introduction**

The entire information system was implemented through UniDocs platform, the system for document and business processes managing (hereinafter referred to as DMS). With the introduction of the mentioned solution the most important concepts are implemented:

* An electronic document with an unlimited set of metadata and an electronic signature
* An electronic folder
* Support for intelligent electronic documents (business facilities)
* Document exchange in accordance with process rules
* Archiving and use of the archive of electronic documents
* User reports on document and folder metadata
* Publication of documents on electronic bulletin boards
1. **System architecture**

The information system UniDocs is implemented as a support for three programs in Ministry:

* financial support program for beginners in business
* incentive programme for entrepreneurship through financial support for development projects
* financial support program for small enterprises for the procurement of equipment.

All phases in this programs (initiating a new cycle of support, selection of beneficiaries to support, realization of support, control of the use of support and analysing use of support) are performed in UniDocs system. System is implemented as a web platform for fast entry, review and checking of data and scanned documents as well as generation of standard documents and reports.

To ensure that decisions about financial support are made based on accurate and timely information for this project, the developed several web services retrieve data from official state records (Business Registers Agency, Tax Administration, CROSO).

Primary users of the system are employees of the Ministry of Economy, and secondary users are employees of various commercial banks submitting web applications, as well as employees of institutions participating in certain stages of decision-making ( *inter alia* Development Agency of Serbia, Development Fund and others).

*Image 1 System architecture*

**Database Server**

The database consists of the general data model of UniDocs software platform for document and business process managing and a part of the data model that was specially developed in accordance with MoE needs and requests. This part of the data model contains all the structured data that is necessary to support all the processes covered by the IS and is fully integrated with UniDocs platform.

All implementation data (types of documents, folders, users, groups, permissions, etc.), data about files and folders, as well as the log of the events in the system are stored in the database of the standard DMS model.

**Application Server**

The application server provides document file manipulation, user directory management and unified access to all UniDocs server functions.

UniDocs organizes documents as a separate structure on the File Server, which is formed in accordance with a fully documented system of document file storage and document file naming, associated with the identification of document types and instances.

Such structure is controlled by the "file service", which is an integral part of the UniDocs application server, which guarantees unlimited scalability, i.e. preserving the performance and responsiveness of the system even with a very large number of active end users.

The limits related to the number of documents and the space for their storage depend exclusively on the capacity of the hardware itself. If there is a need to expand the data storage space during system operation, hardware components can be added without the need of stopping the work in the system.

The UniDocs software system, i.e. its application server, supports the so-called "Load balancing", i.e. it ensures that users logging on to the system are automatically assigned to the least loaded application server, which provides optimal response and system performance. The number of application servers that can be networked is not limited, and they can be added as needed with an increase in the number of active end users. For the purposes of this project, only one application server is installed.

System administration, which includes creating new users and user groups of the system, assigning permissions for the use of system objects, defining new types of documents, document flows, etc. is done through UniDocs MetaDesigner application.

Each user must log in to the system in order to have access to documents, which enables monitoring of the complete history of access and actions performed by a specific user in the system. The concept of UniDocs system implies that files are stored on the file server, and that they can only be accessed through the user interface of UniDocs client modules. As an additional level of security, the documents that users work with are copied to their personal directories, which after processing are copied as new versions back to the file server, which prevents damage or loss of documents. Also, the system has a mechanism for tracking document versions/revisions, as well as a complete history of actions that occurred over each instance of the document.

 **Web Server (UniDocs Web Client, UniDocs Web Request, UniDocs Services for communication with external IS)**

In order for the system to be able to communicate with external users and information systems, UniDocs web server components (Web Client and Web Request) and a set of software services were installed.

Partners (selected banks and leasing companies) that process requests need to access the system through UniDocs Web Client application, a standard DMS module, and thus create instances of business objects.

The Request uses software services for the automatic download of data from other government authorities or agencies with which a connection has been established. The data is downloaded from

* APR (with Service for status data download and Service for financial data download)
* CROSO (with Service for downloading data of the number of employees in certain categories on a given date)
* Tax administration (with Service for downloading tax settlement data on a given date)
* NBS (with Service for downloading data of the average exchange rate for a given currency and date)

The ability to download data through mentioned services has significantly accelerated the process and reduced the possibility of data entry errors. The module places the entered data in the metadata of the electronic document and a part of the database specially developed within this project, which provides the needed set of data for analysis, reporting and process management.

For the Development and Start-up programs, a software service was developed that communicates with the service of the information system of the Development Fund, which is the exclusive processor of Requests for the two programs. Services exchange Request data after the held credit committee in the Fund, i.e. committee in the Ministry. The module places the entered data in the metadata of the electronic document and a part of the database specially developed within this project, which provides the needed set of data for analysis, reporting and process management.

1. Detailed PEP Programme Manual for the Public call in the year of 2021 and accompanying documentation is available on RAS websites at following the link: <https://ras.gov.rs/program-podrske-malim-i-srednjim-preduzecima-za-nabavku-opreme> . [↑](#footnote-ref-1)