TOOLKIT FOR PLANNING DIGITAL TRANSFORMATION IN THE PUBLIC SECTOR

DIGITAL TRANSFORMATION ROADMAP AND ACTION PLAN

METHODOLOGY AND MANUAL

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#INCLUSIVENESS AND ACCESSIBILITY

#Digital by default

#INTEROPERABILITY BY DEFAULT

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1. INTRODUCTION AND PURPOSE OF THE DIGITAL TRANSFORMATION ROADMAP

A brief introduction to the process of developing a digital transformation roadmap for a public administration institution or local government unit (LG) is provided in this section, emphasising the main purpose of the digital transformation roadmap.

2. EXECUTIVE SUMMARY

This section provides a brief overview of the entire project, highlighting the methodology used and the adopted principles of digital transformation and briefly describing the chapters of the digital transformation roadmap.

3. METHODOLOGY USED AND SCOPE OF THE DIGITAL TRANSFORMATION ROADMAP

This section presents the methodology used and the steps taken to assess the digital readiness of the institution/LG.

Below is an example text for this section.

The DTPA methodology (UNDP BiH, 2022) has been adopted for creating the roadmap, which includes three basic phases of implementation. The creation of this document involved implementing the following three phases.

1. CONDUCTING AN ANALYSIS OF THE DIGITAL READINESS OF THE INSTITUTION/LG

In this phase a comprehensive analysis of the processes, relevant regulations in force and the existing IT capacities is conducted and basic conclusions drawn about the current level of digital maturity and readiness of the institution/LG. The analysis included the following range of research approaches.

a. **Desk review** - This method involved reviewing the available documents and data relevant to the institution/LGs. Based on the review of the available data and information, basic conclusions are drawn about the institutional framework for digital transformation of the institution/LG.

b. **Document analysis** - Qualitative research was conducted through the analysis of internal documents of the institution/local government, which form the basis for drawing specific conclusions for each area of digital transformation.

c. **Collection of primary data using semi-structured interviews** - In this phase all relevant employees of the institution/local government are interviewed with the aim of deepening the understanding of the level of digital readiness of the institution/local government in each identified area of digital transformation.

The document analysis and the interview process are methodologically aligned with the DTPA. The assessment is based on a comprehensive questionnaire organised around nine different dimensions that represent the foundations of digital government.

1. **Management** - considers strategies and roadmaps as well as the organisational and governance structure for digital transformation. The management aspect assesses the likelihood of the institution's digital transformation process being successful and consists of an evaluation of the following aspects: the vision of the digital transformation, indicators of digital transformation, the plan for digital transformation, coordination of the digital transformation and collaboration with other parts of the institution, awareness and support of management/elected officials and the budget for digital transformation.

2. **User centred design** - examines the consultation and participation of users in the design and development of digital or e-services for all user groups (e.g., citizens, residents, businesses and government officials). Stakeholders include both supply (public administration and modernisation employees) and demand (population, businesses).

3. **Public administration reform** - considers the reform of public administration for digital transformation. This is often the most neglected aspect of digital transformation and can significantly impact the success or failure of a programme or project.

4. **Organisational culture and employee skills** - assesses the readiness of human capital within the institution, including digital government experts (internal and external) and administration experts. It includes a definition of the key indicators, such as certification/accreditation, as well as the types of training needed, including programme management, infrastructure and application operations, database management, user data analysis/service centre, etc.

5. **Technological infrastructure** - considers common standards for technological infrastructure, design and implementation for digital government, the definition of digital platforms and services, standards and interoperability, management information systems and other common platforms.

6. **Data infrastructure, strategy and governance** – considers government data, its availability, structure, related standards and exchange protocols as well as policies.

7. **Cybersecurity, privacy and resilience** – discusses cybersecurity and business continuity management to ensure the cybersecurity, privacy, authenticity, integrity and the resilience of digital government to all undefined risks, threats, disasters and pandemics.

8. **Legal Basis** – addresses factors of legislation and regulation that support digital governance and the digital economy.

9. **Innovation ecosystem** - considers external factors that can support the digital government programme and its implementation.

Based on the primary research conducted, data on the digital readiness of the institution/local government unit (LG) is collected for each of the areas of digital governance..

d. **Triangulation** - following the triangulation method, which is used to increase the credibility and validity of research findings by combining data from multiple different sources, and based on the conducted research, by adopting multiple different methods, detailed conclusions are drawn about the level of digital readiness of the institution/LG in each area of digital governance.

In addition to the above, the conclusions are validated through additional interviews and working meetings with representatives of Federal Ministry of Development, Entrepreneurship, and Crafts.

2. IZRADA MAPE PUTA DIGITALNE TRANSFORMACIJE

The analysis of digital readiness is used as a diagnostic tool that serves as the basis for developing recommendations for specific future actions aimed at improving the digital readiness of an institution/LG. In other words, the conclusions obtained about the state of digital readiness of the institution/LG serve as a basis for defining priority projects and activities whose implementation will increase the level of digital readiness of the institution/LG on the path of digital transformation and consequently increase the satisfaction of service users of this institution/LG.

The roadmap for digital transformation represents a fundamental document for future planning of the institution/LG in this area, particularly in the process of developing a three-year work plan, budget planning and action plans. Each proposed measure should be subject to a detailed analysis by relevant functions within the institution/LG with the aim of integrating it into the three-year/annual work plan.

3. INSTITUTIONALISATION AND IMPLEMENTATION OF IDENTIFIED PRIORITIES AND MEASURES

This process involves institutionalising the roadmap and implementing the measures mentioned below (detailed explanation depends on the institution/LG).

4. SITUATION ANALYSIS - ANALYTICAL OVERVIEW AND FINDINGS OF THE DIGITAL READINESS ASSESSMENT

The results of the digital readiness assessment of the institution/LG are presented in this section along with recommendations to present them following the structure outlined below.

Digital readiness of the institution/LG - present graphics from the 'analysis sheet' with a brief discussion of the results.

1.1. Management - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.2. User centric design - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.3. Public administration reform - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.4. Organisational culture and employee skills - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.5. Technological infrastructure - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.6. Data infrastructure, strategy, and governance - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.7. Cybersecurity, Privacy and Resilience - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.8. Legal basis - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

1.9. Innovation ecosystem - narratively summarises the key conclusions regarding the digital readiness of the institution/LG in this area.

The following is an example text only for the overall digital readiness of the institution/LG.

As previously mentioned, according to the adopted methodological framework, the foundations of a digital government are divided into nine categories or indicators as listed in the methodology description section.

Each indicator is assessed through a series of questions. The chart below shows the resulting digital readiness score of the institution/LG in each area. It is important to note that the 'Yes' responses highlight strengths and opportunities for continuous development, while the 'No' responses enable the determination of priorities and areas for future engagement.

Indicator	Total score	#Yes	#No	#Information unavailable.	#Not Applicable
Leadership and management	0.6	4	3	0	0
User centric design	0.6	5	4	0	0
Public administration reform and change man-agement	0.8	5	3	0	0
Capabilities, culture and skills	0.4	2	3	0	0
Technological infrastructure	0.7	4	5	0	0
Data infrastructure, strategy and management	0.7	3	3	0	0
Cybersecurity, privacy and resilience	0.5	1	1	0	0
Legislation and regulations	2.0	1	0	0	0
Digital ecosystem	2.0	1	0	0	0

Figure: *Scores of indicators of digital readiness of the institution/local self-government.*

Based on the tally of 'Yes' and 'No' responses, the assessment of the digital readiness of the institution/ local government (LG) for digital governance shows that '*user centric design*' and '*public administration reform and change management*' have the highest number of positive responses (5 each), while '*technological Infrastructure*' has the highest number of negative responses (5). Furthermore, the results indicate that only two areas have a score of 2, namely '*legislation and regulations*' and '*digital ecosystem*', while the other indicators are below 1. The lowest scores are in the areas of '*capability, culture and skills*' (0.4) and '*user centric design*' (0.5). It is evident that the institution/LSG has room for improvement in each of the indicators and it is necessary to identify priority actions based on the sub-indicators for each of the mentioned indicators.
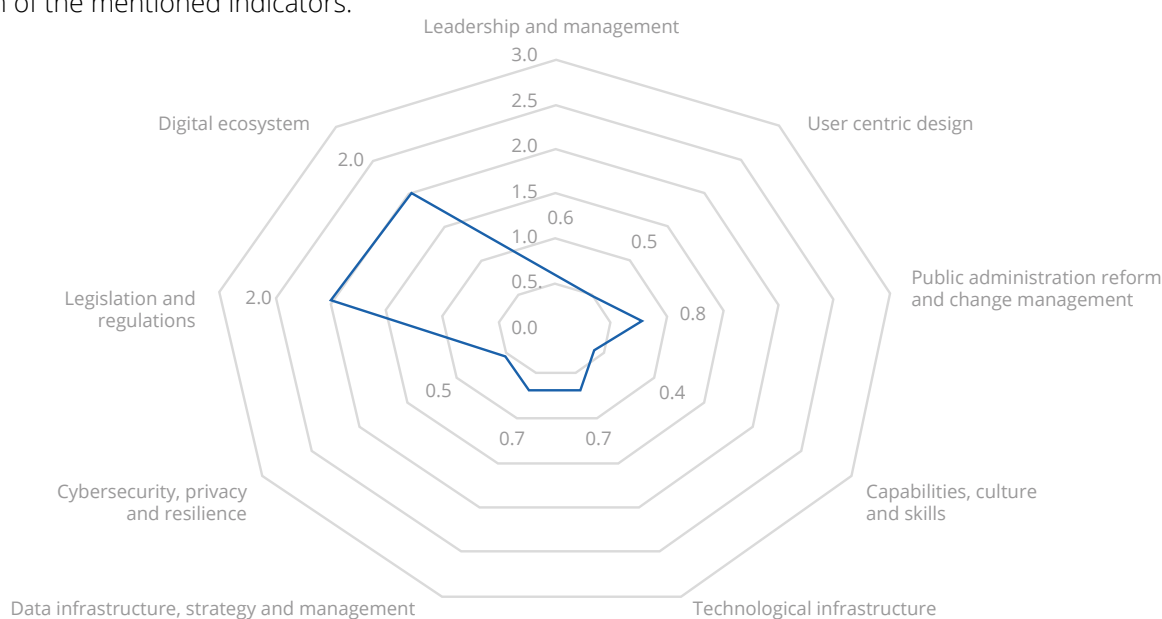

Figure: *Assessment of digital readiness of institution/LG by indicators.*

5. VISION OF DIGITAL TRANSFORMATION, KEY PRINCIPLES AND HORIZONTAL AND VERTICAL ALIGNMENT WITH BROADER STRATEGIC PRIORITIES

The vision of digital transformation should clearly describe the goal of digital transformation and the direction of change and inspire action in line with the desired goal.

Below is an example text for this section.

Vision of digital transformation for the institution

Establishment of an open and accessible government with high-quality digital public services and improved digital communication between the institution and stakeholders along with enhanced administrative and operational efficiency through digital transformation.

Priorities and principles of the digital transformation pillars

Management
Clear vision, leadership and management of the digital strategy.

User centric design
Provision of agile and accessible high-quality services in line with actual user needs with increased public engagement and open participation of citizens and businesses in the design of e-services of the institution.

Public administration reform
Optimisation of processes for digital delivery and sustainability following the principle 'digital by default'.

Organisational culture and employee skills
Training of employees with the aim of developing digital skills and fostering a culture of cybersecurity, collaboration, knowledge exchange, innovation and creativity throughout the institution as the basis for continuous improvement.

Technological infrastructure
Use of whole-of-institution and whole-of-government standardised technological and data infrastructure.

Data infrastructure, strategy and governance
Improvement of data collection, analysis and sharing capabilities using new technologies and the principle 'once-only'.

Cybersecurity, privacy and resilience
Establishment of protocols and BCPs to ensure security, privacy and to minimise the risks posed by cyber threats.

Legislative and institutional framework
Transparency in decision-making and in the provision of public services.

Digital and innovation ecosystem
Understanding the existing digital ecosystem and promoting innovation, education and entrepreneurship in BiH.

In addition to the aforementioned text, it is necessary to consider the broader legislative and institutional framework within which the institution/LG operates. This includes laws, bylaws and other regulations that address the issue of digital transformation as well as key strategic documents that are relevant to the implementation of the digital transformation of the institution/LG in line with the recommendations from DTPA.

6.   MAIN PRIORITIES

In this section, the main priorities for all nine areas of Digital Transformation of Public Administration (DTPA) are listed along with a brief description of each area. This chapter should be structured into subheadings that correspond to the areas and each subheading should contain a table.

Alignment with the strategic objective	Here, reference is made to the existing strategic objectives from adopted strategic documents and the three-year work plan of the institution/LG or existing development strategies. In general, the strategic objective of the Roadmap is the digital transformation of the institution/LG and it is important to clearly emphasise this link with 'higher' documents.		
Priorities	One of the nine areas of the DTPA questionnaire, as described in each area. **Please Note:** Just one table per area. Proposed priorities are provided in the handbook in section 4. **Please Note:** they can only be adopted.		
Key measures	The priority/key recommendations from one of the nine areas, defined as measures (The method of defining priorities should be done to ensure terminological equivalence with measures in 'higher' strategic documents. **Please Note:** number them to reflect the connection with the priority (e.g., 1.1., 1.2., etc.).		
Description of the measure with indicative areas of action	Describe the measures (1.1., 1.2., etc.), with a brief reference to the DTPA questionnaire (e.g., chapter, section, etc.).		
Strategic projects	Measures defined through proposed initiatives/projects. **Please Note:** number them according to the above-mentioned measures (e.g., 1.1.1., 1.1.2., etc.)		**Expected output / outcome:** **Expected result:**
Indicators for monitoring the results of measures	**Indicators (of output outcome and end result)**	**Baseline values**	**Target values**
Developmental effect and contribution of measures to achieving priorities	As stated in the DTPA questionnaire, with a possible reference to a 'higher' strategic document, if a link can be found, the development strategy of a higher administrative level, the development strategy/work plan of an institution/LG. **Please Note:** number the measures as provided above.		
Indicative financial framework with funding sources	Proposed budget, as per the DTPA questionnaire, with a note that the projection is based on analysis and needs to be confirmed through a three-year work plan and budget (can be included as a footnote).		
Implementation period of measures (202? - 202?)	According to the DTPA questionnaire (three-year period).		
Institution responsible for coordinating the implementation of measures	According to the DTPA assessment.		
Implementers of measures	According to the DTPA questionnaire.		
Target groups	According to the DTPA questionnaire.		

- **Priority:** Priorities should be clearly formulated, achievable within the timeframe of the strategic documents, mutually aligned, measurable with the help of objectively verifiable indicators and socially and environmentally acceptable. The main priorities of the Roadmap will be the nine areas used in the DTPA analysis. Provide a brief description of each area along with a reference to where they are located in existing strategic documents of the institution/LGs (development strategy and three-year plans), if applicable. The handbook and DTPA questionnaire provide a proposed priority list based on the observed areas (Chapter 4).

- **Measures:** Measures provide a detailed elaboration of the priorities. Measures should be clearly formulated, achievable within the timeframe of the strategic documents, mutually aligned and measurable with the help of objectively verifiable indicators. Each measure is indicated by a lower hierarchical number of the relevant priority. Measures should as a minimum include a link to the priority, measure title, description of the measure with rough areas of action, indicators for monitoring the results of the measure, developmental effect and the contribution of the measure to achieving the priority, indicative financial construction with funding sources, implementation period of the measure and the institution responsible for coordination and implementation of the measure. Measures are the priority measures/recommendations provided in the DTPA questionnaire. Each measure should be linked to one of the nine areas and briefly elaborated. Some measures may be internal and applicable only at the institutional level – this should be highlighted separately. For others, if possible, provide a reference link to the existing strategic documents.

- **Indicative strategic projects:** Strategic projects contain a brief description, expected effects and an indicative financial framework. This is equivalent to recommendations/projects from the DTPA questionnaire.

Below is an example text for this section, specifically for the area of data infrastructure, strategy and governance.

Main priorities (from the key areas covered in the assessment of digital readiness), measures and indicative strategic projects (described in the table below) needed to improve the digital governance of the institution/LG. Indicative strategic projects: Strategic projects contain a brief description, expected effects and an indicative financial framework. This is equivalent to recommendations/projects from the DTPA questionnaire.

Link to strategic goal	Strategy for the Development of FBiH 2021-2027/strategic goal 1 (Accelerated Economic Development) and strategic goal 4 (Efficient, Transparent and Accountable Public Sector).[1] Strategy for the Development of HNŽ/K 2021-2027/strategic goal 1 (Dynamic Economic Development with Sustainable Resource Utilisation).[2]
Priorities	6. Improvement of the ability to collect, analyse and share data using new technologies and the 'once-only' principle.
Key measures	6.1. To develop models for electronic data exchange with other institutions, particularly in terms of the horizontal Government-to-Government (G2G) model.
Description of measures with approximate areas of action	By establishing an Enterprise Service Bus (ESB) data hub for the City of Mostar conditions will be created for the mass exchange of data between the City of Mostar and other institutions at various administrative levels in Bosnia and Herzegovina as well as between its organisational units. By defining functional and non-functional requirements as well as the minimum common data content for electronic exchange the conditions will be created for signing Data Exchange Agreements with other interested institutions. Where there is a clear legal basis (relevant law) for data collection, processing and sharing signing agreements may not be necessary. After acquiring the necessary equipment for data exchange, the conditions will be met for production testing of the electronic data exchange system followed by official use of the ESB platform to streamline the process for users of various services provided by the City of Mostar. Users currently have to collect most of the required supporting documentation themselves, wasting precious time at various counters. The implementation of this measure will also be accompanied by a pilot project for electronic data exchange from the registry of vital records and claims/debts registry, which will be shared with the City of Mostar by other institutions as well as the residence registry (IDDEEA) and trade register (FMRPO) that will be made available to the City of Mostar by other institutions.

1 According to the current development strategy of the Federation of Bosnia and Herzegovina (FBiH), digital transformation in the public sector is defined under Accelerator 1 (Innovations and Digitalisation), Strategic Objective 1 (Accelerated Economic Development), Priority 1.1 (Increase Digitalisation of the Economy), 1.1.1 (Establish Public Digital Infrastructure), Strategic Objective 4 (Transparent, Efficient and Accountable Public Sector), Priority 4.2 (Put Public Administration in Service of Citizens) and 4.2.6 (Implement Digital Transformation of Public Administration).
2 In the development strategy of the Herzegovina-Neretva Canton (HNŽ/K) for 2021–2027 digital transformation is defined in section 2.32 (Strategic Focus), Strategic Focus 1 (Digitalisation) and section 2.33.2 (Strategic Objectives with Indicators). The strategic objective is to achieve dynamic economic development whilst ensuring sustainable resource utilisation.

Strategic projects	Name of the strategic project	Expected output result: Expected result:
	6.1.1. Implementation of the ESB platform with a pilot project of electronic data exchange from two records of the City of Mostar and two records of other institutions.	ESB enables the exchange of data between different organisational units of the City Administration and with other institutions at different administrative levels.

Indicators for monitoring the outcomes of measures	Indicators (output and outcome)	Baseline values	Target values
	6.1.1.1. Defined functional and non-functional requirements as well as the minimum common content of electronic data from the registry of vital records and the registry of claims/obligations that are exchanged by the City of Mostar as well as the residence registry (IDDEEA) and the trade register (FMRPO).	Non-existent	Present
	6.1.1.2. Signed Agreements with respective institutions regarding the pilot project for electronic data exchange (City of Mostar, IDDEEA and FMRPO).	Non-existent	Present
	6.1.1.3. Acquired necessary equipment for electronic data exchange.	Partly completed	Completed
	6.1.1.4. Functional system established with piloting of data exchange from the electronic records of the City of Mostar, IDDEEA and FMRPO.	Partly completed	Completed

Developmental effect and contribution of measures to the achievement of priorities	Established functional system for the exchange of electronic data with the piloting of the exchange of data from electronic records of the registry office and records of receivables/debts of clients of the City of Mostar, IDDEEA residence records and the register of trades at FMRPO. The continuation of the project will result in the introduction of new records/registers into the exchange system, both horizontally and vertically. The establishment of such a system will start a revolution in the field of digital transformation, which will reflect strongly on the satisfaction of users in the City of Mostar whereby citizens will have less and less need to go personally to various counters in order to obtain supporting documentation when using various services.
Indicative financial structure with funding sources	800,000 BAM (Budget of the City of Mostar and donors).
Period of implementation of measures (2022 – 2024)	2022–2024.
The institution responsible for coordinating the implementation of measures	City of Mostar and other interested institutions.
Bearers of measures	Working group/ICT service and the mayor's office.
Ciljne grupa	Various institutions at all administrative levels and citizens.

7. INSTITUTIONAL GOVERNANCE OF IMPLEMENTATION, MONITORING, EVALUATION AND FINANCING OF THE ROADMAP FOR DIGITAL TRANSFORMATION

Here, it is necessary to elaborate on the role of the institution/local self-government in the process of strategic/three-year planning and to list the existing documents in that segment. It is crucial to explain how the specific roadmap will be incorporated into strategic planning, budgeting, etc. It is necessary to make a distinction again between the roadmap, which is a product of DTPA analysis and represents an intermediate document, and the need for detailed elaboration into implementable projects in the planning phase, when all proposed measures are considered and aligned, as well as from the perspective of DOB/Budget/PJI that define the financial framework for action in the next 1+2 years.

8. ACTION PLAN

Annex 3: Annual Action Plan for Digital Transformation of the Institution/Local government. It should be emphasised that this is a set of proposed priority measures based on the DTPA Questionnaire, with a note that these measures and projects need to be aligned with the three-year planning process and key strategic documents of Bosnia and Herzegovina, the Federation of Bosnia and Herzegovina and Republika Srpska as well as the key strategic documents of the institution/local government (see the table below).

These tables provide detailed elaboration of the tables listed in the main priorities. It is important to note the following order and adhere to the numbering of priorities, measures and activities:

priority - 1.1. / measure - 1.1.1. / activity/project.

Priorities refer to nine areas (total of nine priorities), while each priority may have multiple measures and each measure can have multiple activities.

Action Plan

Proposed activities/projects to implement priority measures. Here, we focus on recommendations/projects from the DTPA questionnaire.

A. **Main Programme**

We transfer the number of measures according to the DTPA questionnaire and break them down into individual activities/projects as outlined in the Roadmap, based on the priority number and the name of the area (9 areas).

Name of the main programme	Main programme code	Sources and amounts of planned financial resources in BAM			
		Sources	Year 1	Year 2	Year 3
1.		Budgetary funds			
		Credit funds			
		EU funds			
		Other donations			
		Other funds			
		Total			

A1. Programmes (measures) for implementation of the main programme

Name of programme (measure)	Programme code	Indicators	Baseline value	Target value by year		
				Year 1	Year 2	Year 3
1.1.						
1.2.						

A2. Activities/projects implementing programmes (measures) from table A1

Priority 1.									
Measure 1.1.									
Activity/project name	**Execution deadline**	**Expected result of the activity/project**	**Carrier** *(Smallest organisational part)*	**PJI²**	**Accepted**	**Sources and amounts of planned financial funds in BAM**			
					(Yes/No)	Sources	Year 1	Year 2	Year 3
1.1.1.						**Budgetary funds**			
						Credit funds			
						EU funds			
						Other donations			
						Other funds			
						Total			
1.1.2.						**Budgetary funds**			
						Credit funds			
						EU funds			
						Other donations			
						Other funds			
						Total			
Total for the programme (measure) 1.1.						**Budgetary funds**			
						Credit funds			
						EU funds			
						Other donations			
						Other funds			
						Total			

The following is an example text for this section, specifically for the field of 'technological infrastructure' (priority presented in the example in field 6).

Priority number and name: 6. IMPROVING DATA COLLECTION, ANALYSIS AND SHARING ABILITY USING NEW TECHNOLOGIES AND THE 'ONCE-ONLY' PRINCIPLE									
6.1. Name of the measure: *Develop electronic data exchange models with other institutions, especially the horizontal G2G model.*									
Activity/project name	**Execution deadline**	**Expected results of the activity/project**	**Implementing entity** *(Smallest organisational unit)*	**PJI²**	**Approved**	**Sources and amounts of planned financial funds in BAM**			
					(Yes/No)	Sources	Year 1	Year 2	Year 3
6.1.1. Implementation of the ESB platform with a pilot project of electronic data exchange from two records of the City of Mostar and two records of other institutions.	2022.-2024.	The implemented ESB enables the exchange of data between different organisational units of the City Administration and with other institutions at different administrative levels.	City of Mostar and other interested institutions.						
						Budgetary funds			
						Credit funds			
						EU funds			
						Other donations			
						Total	800,000		
Total for the programme (measure) 6.1 *Develop electronic data exchange models with other institutions, especially in terms of the horizontal G2G model.*						**Budgetary funds**			
						Credit funds			
						EU funds			
						Other donations			
						Other funds			
						Total	800,000		