

Terms of Reference (ToR) for the procurement of IT services

CONFIDENTIAL

Project title: Water Sector Governance	Processing number/cost centre: G-012046-001
Country: Jordan	Transaction number: 10032993
Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process	

0. Abbreviations	3
1. Context.....	4
1.1 The company	4
1.2 Project background	4
1.3 National Digitalization and Cyber Security Compliance	7
1.4 Objective of the commission/subject of the procurement.....	8
2. Requirements for the IT solution	9
2.1 Framework concept for the IT solution	9
2.1.1 Description of the existing IT solution	9
2.1.2 Description of the application/use of the IT solution.....	10
2.1.3 General conditions at the partner end (where relevant).....	11
2.2 Infrastructure requirements	11
2.2.1 Deployment environments.....	11
2.2.2 Technical security requirements.....	11
2.3 Functional requirements.....	11
2.4 Non-functional requirements	12
2.4.1 Interfaces	12
2.4.2 System requirements/technical framework.....	13
2.4.3 Sustainability	13
2.5 Further specifications/general conditions.....	13
3. Responsibilities of the contractor.....	13
3.1 Work package 1: Inception phase.....	13
3.2 Work package 2: NWMP Digital Platform 2.0 Establishment:	14
3.3 Work package 3: Launch Workshop of final product	14
3.4 Work package 4: Training for platform users:	14
3.5 Work package 5: Handover of final product to MWI	14
3.6 Coordination:.....	14
4. Term, schedule, milestones and inputs of GIZ or other actors.....	15
Inputs of GIZ or other actors	15

Transaction number:

- **Assigning a focal point from the counterpart side (MWI).....16**
- **Official letters and permissions for work facilitation (GIZ, MWI)16**
 - 5. Granting rights of use 16
 - 6. Data protection..... 16
 - 7. Information security 16
 - 8. Language 16
 - 9. Technical and methodological concept..... 16
- 9.1 Requirements for the technical and methodological concept (Section 1 of the assessment grid).....16**
 - 9.1.1 Assessment of the requirements 17
 - 9.1.2 Project management and development methodology 17
 - 9.1.3 Operational plan/personnel assignment plan..... 17
 - 9.1.4 Test and documentation concept 17
 - 9.2 Additional requirements (Section 2 of the assessment grid) 17
 - 10. Human resources 17
 - 10.1 Team leader (Section 3.1 of the assessment grid) 17
 - 10.2 Key Expert 1: Senior GIS Specialist (Section 3.2 of the assessment grid)..... 19
 - 10.3 Expert 2: GIS Software Developer (Section 3.3 of the assessment grid)20
 - 11. Costing requirements 21
 - 11.1 Assignment of experts..... 21
 - 11.2 Travel expenses..... 22
 - 11.2.1 Travel – sustainability considerations 22
 - 11.2.2 Travel expense requirements 22
 - 11.3 Materials and equipment 23
 - 11.4 Workshops, training 23
 - 11.5 Hosting..... 23
 - 11.6 Other costs..... 23
 - 11.7 Flexible remuneration..... 23
 - 12. Requirements on the format of the tender 24
- 13. Annexes24**

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

0. Abbreviations

API	Application programming interface
BMF	German Federal Ministry of Finance
BMZ	German Federal Ministry for Economic Cooperation and Development
CV	Curriculum vitae
ERD	Entity relationship diagram
EVB-IT	Supplementary Terms and Conditions for the Procurement of IT Services
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GWB	German Competition Act
JVA	Jordan Valley Authority
MCM	Million Cubic Meters
MWI	Ministry of Water and Irrigation
NWMP	National Water Master Plan
SaaS	Software-as-a-service
ToR	Terms of Reference
VgV	German Ordinance on the Award of Public Contracts
WAJ	Water Authority Jordan
WEFE	Water-Energy-Food-Ecosystems
WSG	GIZ Water Sector Governance project in Jordan

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

1. Context

1.1 The company

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH supports the German Federal Government in achieving its objectives in the field of international cooperation for sustainable development and international education. The company is active in several fields: economic development and employment; governance and democracy; peacebuilding, security, reconstruction and civil conflict transformation; food and nutrition security, health, basic education, environmental protection, resource conservation and climate change mitigation.

GIZ operates in some 120 countries worldwide and sends experts and managers to projects and programmes. A high percentage of these partner countries are marked by fragile statehood, violence and risks for individual safety and security. GIZ is responsible not only for its own staff members but also for the safety and security of partners, consultants and other involved parties.

1.2 Project background

The Jordanian water sector is supported by the German Cooperation in Jordan mainly through Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), German Federal Institute for Geosciences and Natural Resources (BGR) and German Development Bank (KfW).

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) in cooperation with the water sector public institutions GIZ is implementing the German Jordanian Technical Cooperation Project Water Sector Governance (WSG).

The WSG project's objective aims at improving the principles of good governance in the Jordanian water sector. In order to create an important prerequisite for the sustainable and transparent management of the extremely scarce water resources. The principles of good governance as defined by the WSG project include administrative transparency, efficiency, participation, equity, accountability, and the rule of law. The WSG project supports its Partners in the Jordanian water sector in implementing key reform measures in water resources planning, regulation, private sector participation, bulk water management, human resources management, climate financing, WEFE Nexus and information technology and data security. The program comprises the following measures (among others):

1. Support the institutionalisation and digitalisation of the National Water Master Plan (NWMP) process together with the Ministry of Water and Irrigation (MWI) (incl. support of the National Water Master Plan Unit (NWMP unit) and its Digital Platform 2.0).
2. The monitoring of key performance indicators of water utilities.
3. The establishment of a bulk water management unit and the development of a bulk water management and cost calculation IT-tool.
4. The implementation of the IT strategies in the water sector.
5. The improvement of the data security and digitalisation as well as the standardization of GIS data exchange between the water sector institutions.
6. The fostering of the WEFE Nexus approach.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

7. The improvement of climate financing.

Third National Water Master Plan (NWMP) process:

Current WSG project activities supporting the Third NWMP (NWMP-3) process are based on previous measures implemented as part of the of the GIZ Management of Water Resources (MWR) project, completed in December 2022. The NWMP-3 documents created by the MWR project (a Rapid Assessment (**Annex 1**), three Volumes (B, C, and D) with supporting studies, preliminary Capital Investment Plan) formed the basis for improved planning in the water sector. The improvement of using results from the NWMP is covered in the ongoing WSG project. Available publication of the NWMP-3 process took into consideration how much water will be available during the period 2020-2040, how demand will rise and how and from which sources water can be allocated. In the long term, desalinated water would be a major source for water supply and would have to compensate for declining groundwater and surface water resources. Thus, infrastructure would change considerably. The NWMP-3 process formed the basis for decisions related to this change.

Both surface and groundwater resources will lose (15%) of their potential by 2040, due to climate change. This means that the potential for groundwater exploitation will decline from (280 to around 240 MCM/yr), and the potential for surface water exploitation will decrease from around (400 MCM/yr to around 340 MCM/yr). Climate Change impacts must therefore be considered in the planning processes.

Due to decades of over-abstraction and the little prospect that this will significantly change, exploitability of groundwater resources will drastically decrease between now and 2040. Large parts of the main exploited aquifers will run dry and no longer be exploitable. Only (35%) of current production will be available, and in the northern parts only around (15%). Therefore, the way Jordan currently uses groundwater for domestic water supply will likely change significantly.

In 2040, 811 MCM will be needed for municipal water supply. Resources available from groundwater and surface water will decrease to 280 MCM in 2040 (35%), which means that the supply gap will be around 531 MCM (65%). Based on the forecast done in 2020, up to 297 MCM could be provided through new projects. In this case, the supply gap would be only around 234 MCM (29%). However, implementation and timing of these projects depend on availability of related funding. A main long-term alternative is desalination of brackish and seawater.

Transaction number:

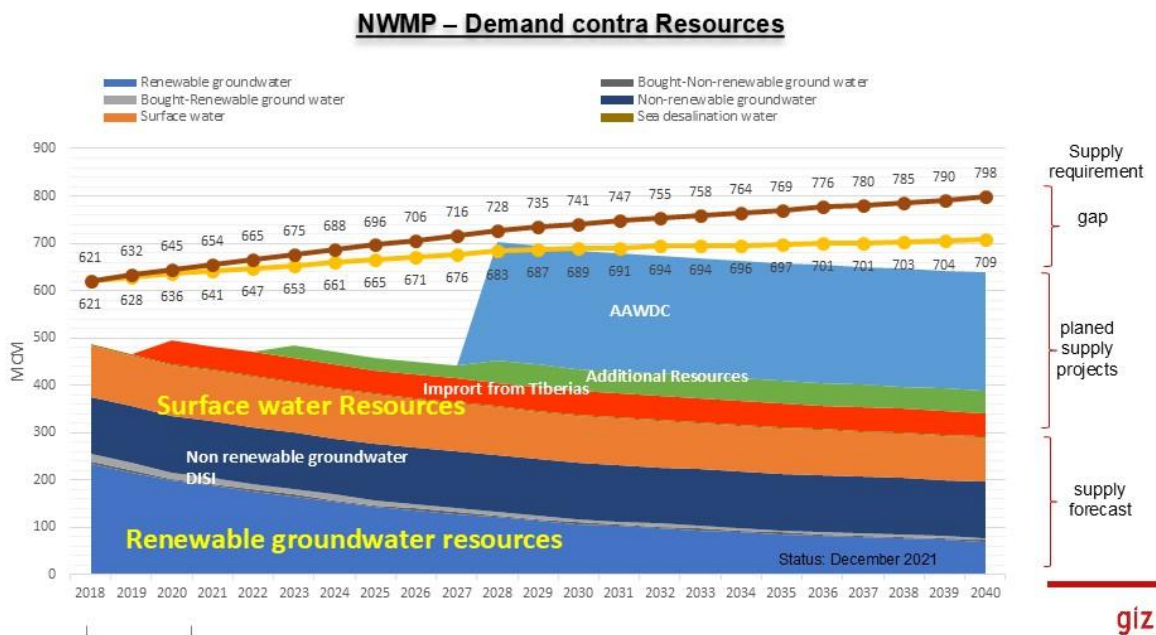


Figure 1: Forecast of Development of Water Resources Availability, Supply Requirement and Supply Gap 2018-2040 (BAU and NRW Reduction Scenario)

The NWMP-3 process serves as a strategic framework for water management and development within the country. However, with evolving challenges such as demographic changes, natural population growth plus the refugee influxes, climate change, urbanization, and increasing water demands, it is crucial to have a dedicated **NWMP Unit** that can review, revise, complement, and update data and publications associated with the master plan process systematically and periodically. This NWMP unit will ensure that the water sector is equipped with the most up-to-date and relevant information to address emerging water-related issues effectively. The GIZ WSG programme supports the Jordanian water sector in establishing the NWMP Unit within the MWI.

National Water Master Plan Unit (NWMP Unit) in the MWI:

The NWMP-3 process aims to address Jordan's pressing water challenges by integrating digital solutions, advancing Monitoring, Evaluation, and Learning (MEL) practices, and fostering inter-agency collaboration. The currently established NWMP Unit, located in the MWI, will play a central role in advancing the implementation of the NWMP process, including its digitalisation. The unit will oversee scenario modelling, efficient communication, risk management, and data-driven decision-making to fulfil the plan's objectives.

Among other tasks the NWMP Unit will be responsible:

- Overall: For the implementation and advancement of the NWMP process.
- NWMP Digital Platform: For the Transition from hard-copy reports to an interactive NWMP Digital Platform 2.0 for managing NWMP-3 content. Incorporate historical data and reports into platform for streamlined access and utilization.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

- **NWMP Digital Platform:** For maintaining, updating, and further developing the NWMP Digital Platform V.2 to support knowledge creation/management and improve decision making (living document approach). Thereby, harmonize existing digital instruments and approaches in the sector (e.g. data sets, tools, dashboards etc.) by ensuring their proper integration into the NWMP Digital Platform V.2. Utilize AI and business intelligence tools for scenario analysis, forecasting, and decision support.

The ongoing establishment of the NWMP Unit goes hand in hand with the establishment of an updated **NWMP Digital Platform V. 2.0** (core of present ToR). This Digital Platform V. 2.0 further builds on the existing NWMP Digital Platform V. 1.0. The new version 2.0 will complement missing features of the previous version 1.0 and, thereby, ensure that the platform covers all needs defined by the MWI. New features will be designed together with selected counterparts of the MWI that are also involved in the establishment of the NWMP Unit establishment. Version 2.0 is supposed to replace version 1.0 through the implementation of the present ToR.

NWMP Digital Platform V. 1.0:

This platform was developed during the previous GIZ Management of Water Resources project. It constitutes a first attempt to digitalise NWMP-3 content. Throughout the last years, GIZ's Jordanian Partners have communicated the need to update and extend the features of the existing digital platform V. 1.0.

The main goal of the development of platform V. 1.0 was to apply the concepts of sustainability, digitalization and institutionalization of the activities of the NWMP-3 to support the decision-making and planning processes. Therefore, specialized programming and web-based development services for the NWMP-3 results were provided to ensure the authorization of the MWI to update these results based on the updated information.

The objective was to design and implement a GIS-based platform based on the Third National Water Master Plan (NWMP-3). The platform presented the results of NWMP-3 in a systematic and automated way with user-friendly interfaces providing on-spot analysis based on the updated values and parameters provided by all relevant data sources through a direct link to their databases. The platform was provided with all tools needed to analyze GIS data to show the results in a map-based interface with the option to show all analysis charts and tables that supports the future planning and decision-making process. (**See Annexes 2&3**).

The main features of a new NWMP Digital Platform 2.0 will be discussed with partners and be based on a needs assessment and gap analysis performed by the contractor during the inception phase of the contract implementation.

1.3 National Digitalization and Cyber Security Compliance

The National Digitalization Strategy and National Cybersecurity Strategy are complementary frameworks designed to enhance the technological and digital landscape of the governmental sector while ensuring its protection from cyber threats. The National Digitalization Strategy focuses on transforming key sectors, such as government services, education, and healthcare, through the adoption of digital technologies, fostering innovation, and improving the accessibility and efficiency of services. Meanwhile, the National Cybersecurity Strategy aims to safeguard the nation's digital infrastructure, systems, and data against cyber risks and threats by developing robust cybersecurity policies, enhancing technical capabilities, and promoting awareness and collaboration among stakeholders. Both

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

strategies aim to ensure that digital transformation occurs in a secure and sustainable manner.

Suggested replacement based on the current situation in Jordan:

National Digitalization, Cybersecurity, and Data Protection Compliance

Jordan's digital transformation is guided by an evolving set of national frameworks that collectively aim to modernize public services while ensuring data security and protection. The **National Digital Transformation Strategy** (led by the Ministry of Digital Economy and Entrepreneurship – MoDEE) provides the overarching vision for digitizing government services, enhancing interoperability, and promoting a data-driven public sector. This is complemented by the **National Cybersecurity Strategy** and the **National Cybersecurity Framework**, overseen by the National Cyber Security Center (NCSC), which establish the policies, standards, and institutional arrangements required to protect critical infrastructure, government systems, and sensitive information from cyber threats. In parallel, the **Jordanian Personal Data Protection Law No. 24 of 2023** introduces a comprehensive legal framework governing the collection, processing, storage, and transfer of personal data, aligning Jordan with international data protection principles and strengthening individuals' privacy rights. Together, these frameworks ensure that digital transformation in Jordan is pursued in a secure, resilient, and rights-based manner, balancing innovation, service delivery efficiency, and trust in public institutions.

1.4 Objective of the commission/subject of the procurement

The main objective of this assignment is to establish a NWMP Digital Platform 2.0 based on MWI needs and train respective MWI staff to use, maintain and advance this platform. The platform will be aligned with the NWMP process, in particular the ongoing NWMP unit's establishment. The platform creation requires specialized programming and web-based development services with the aim to present and integrate the NWMP-3 process' data and policies at one single digital place. The platform will integrate different data sources, by direct links to digital files, databases, mobile devices and wireless equipment. The Digital Platform 2.0 should serve as a central element of national water planning. Thus, the platform should not only display historic and current data but allow MWI policymakers and administrative staff to use it as a practical means supporting strategic decisions making.

To achieve this objective, the contractor will need to work closely and constantly exchange with GIZ WSG, the MWI, other Jordanian water institutions, and other contractors (mainly the contractor in charge of establishing the NWMP Unit) (among others).

The NWMP Digital Platform 2.0 should:

- Serve as a central digital hub that integrates data (data integration, analysis, processing, visualisation, including Geo-Data (GIS), and raw/processed data from the Water Information System (WIS)) as well as policy and strategic content at one digital place.

Transaction number:

- Describe and monitor the current water availability, losses, future decline, and current and future uses of available water resources.
- Support in providing alternative development scenarios for water resources allocation and demand/use at various planning horizons.
- Calculate and analyze the annual water balance versus demands for the current and for future with alternative development options (defining the calculation/analysis procedure is part of the contract requirements).
- Support decision makers in identifying development options to reduce the gap between resources availability and demands (this requires a dynamic visual tool containing maps and reports and data to display future production of all water resources (groundwater, surface water, desalinated water, treated wastewater), demand development, projects for water supply augmentation).
- Be a dynamic tool in regards of using and analyzing constantly updated information at any time. It should be able to present analysis results at any time.
- Have the flexibility for different user types (role-based access for admins, managers, staff etc.).
- Support the management level of the three water sector institutions, MWI, WAJ and JVA by describing and presenting existing information which is used for planning purposes (dissemination of existing information).
- Display the current status of water resources (Dashboards) in order to act upon with regards to allocation (current storage in dams, current amount of rainfall at 10 representative stations, current rate of water delivered from critical water infrastructure (e.g. Zara Main desalination plant, Zai WTP, Wadi Al Arab wellfield, Aqeb wellfield) (for water allocation decision-making).
- Help to facilitate and ensure future updates of NWMP contents (digital updates of NWMP content instead of physical publications).
- Visualize and update future projects based on the prioritized projects in the CIP (Capital Investment Plan).

2. Requirements for the IT solution

2.1 Framework concept for the IT solution

2.1.1 Description of the existing IT solution

The existing IT solution is a GIS-based Digital Geo-Platform developed under the Third National Water Master Plan (NWMP-3). It serves as a centralized system for visualizing, managing, and analyzing water sector data in Jordan (see Annexes 2&3).

The system is built on ESRI ArcGIS Enterprise architecture, including:

- ArcGIS Portal for content management and user access
- ArcGIS Server for hosting services and APIs
- Enterprise Geodatabase for storing spatial and non-spatial data
- Web-based dashboards and applications

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

The intention is that the contractor will build upon the existing platform. Existing ArcGIS licenses are available within the water sector institutions. Any additional licenses required beyond the existing environment shall be clearly identified and justified by the contractor.

The platform currently provides:

- Visualization of NWMP volumes B,C, and D (maps, charts, tables)
- Interactive dashboards for decision-making
- Data entry and update tools
- Integration of GIS layers and tabular data
- Story-map presentation of NWMP content

However, several limitations remain:

- Partial integration with other Internal & external systems
- Some manual data entry processes
- Incomplete coverage of all NWMP volumes
- Need for enhanced automation, scalability, and institutionalization

2.1.2 Description of the application/use of the IT solution

The IT solution is designed to support water sector planning and decision-making in Jordan by providing a unified platform for accessing and analyzing data related to water resources, demand, infrastructure, and planning scenarios.

Problem addressed:

Fragmented data across multiple institutions limits effective planning and timely decision-making.

Objective of the IT solution:

To provide a centralized, dynamic, location intelligence, and user-friendly platform that enables:

- Integration of data from multiple sources
- Real-time analysis and visualization
- Continuous updating of NWMP results
- Evidence-based decision-making

Target group:

- Ministry of Water and Irrigation (MWI)
- Water Authority of Jordan (WAJ)
- Jordan Valley Authority (JVA)
- Water utilities and sector stakeholders

Indicators supported:

- Water demand and supply balance
- Resource availability (groundwater, surface water, rainfall)
- Infrastructure performance
- Investment planning indicators (CIP)

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

2.1.3 General conditions at the partner end (where relevant)

The partner institutions (MWI, WAJ, JVA, and utilities) have:

- Existing GIS infrastructure and ArcGIS licenses
- Dedicated IT departments
- Access to sectoral databases

However, challenges include:

- Varying levels of technical capacity
- Need for continuous training and knowledge transfer
- Limited automation in data exchange processes

There is a requirement to:

- Strengthen institutional capacity
- Enable long-term ownership and sustainability
- Possibly establish a unified GIS unit across the sector

2.2 Infrastructure requirements

2.2.1 Deployment environments

The IT solution shall include multiple deployment environments:

- Development environment
- Testing environment
- Production environment

Each environment must be strictly separated, with no use of real data in testing environments except for production environment which requires real data.

2.2.2 Technical security requirements

The system must ensure:

- Role-based access control
- Secure communication via HTTPS
- Data protection aligned with national standards
- Arrange with IT department for backup and disaster recovery mechanisms
- Protection of sensitive governmental data

Additionally, options for high availability set up to be discussed with IT department.

2.3 Functional requirements

The IT solution must meet the following functional requirements.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

- Integration of data from internal and external systems (e.g. NWIS, WMIS, WE-DMS, etc.)
- Automated data insertion through APIs and ETL processes if needed
- Centralized geodatabase management
- Interactive GIS visualization (maps, layers, thematic analysis)
- Dynamic dashboards for decision-makers
- Data entry and update interfaces with validation mechanisms
- Reporting tools with export capabilities
- Scenario analysis support (e.g. WEAP model integration)
- User and content management functionalities

2.4 Non-functional requirements

The IT solution must meet the following non-functional requirements:

Performance: Fast response time and efficient data processing during multi-user access and concurrent sessions.

Scalability: Ability to handle increasing data volume and users

Security: Compliance with IT security standards

Usability: User-friendly interface for technical and non-technical users

Compatibility: Web-based, cross-browser.

Operability: Function under varying internet conditions

Languages: English

Availability: High system uptime. a minimum availability of 99% during business hours (8:00-17:00 local Jordan time) shall be achieved.

2.4.1 Interfaces

The system shall be able to receive data from:

- Internal databases (MWI, WAJ, JVA)
- Existing GIS systems
- Other systems (e.g. NWIS, WMIS, eGWMS, etc.)

Data exchange mechanisms include if needed:

- APIs
- Web services (HTTPS)
- Direct database connections (SQL/Oracle)
- Import/export of structured data (e.g. Excel, CSV, PDF)

Each interface should define:

- Data format
- Frequency of updates
- Secure access protocols

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

2.4.2 System requirements/technical framework

The IT solution shall be based on:

- ESRI ArcGIS Enterprise platform
- Enterprise Geodatabase
- Multi-tier architecture (data, application, presentation layers)

Additional requirements:

- Documentation (technical and user manuals)
- Compliance with GIS and IT standards

2.4.3 Sustainability

The IT solution shall ensure:

- Efficient use of computing resources
- Long-term maintainability by national institutions
- Capacity building and training of staff for end-users and IT technical to reduce dependency on external support
- Support for future system expansion and upgrades

2.5 Further specifications/general conditions

- Implementation of remaining NWMP volumes
- Integration with additional sector systems
- Development of mobile applications for field data collection if needed.
- Strengthening stakeholder engagement and data governance
- Continuous system improvement and updates

3. Responsibilities of the contractor

The contractor is responsible for providing the following services: In close collaboration with GIZ WSG and Jordanian water institutions, mainly the MWI, the contractor performs its tasks in Jordan. Based on prior agreement with GIZ some of the tasks could also be performed remotely in case these tasks don't require a physical presence in Jordan.

3.1 Work package 1: Inception phase

- Facilitate an inception meeting with GIZ (online)
- Organise and conduct a kick-off workshop with GIZ and Jordanian water institutions (in Jordan)
- Mapping Exercise: Perform a needs assessment and gap analysis (incl. interviews with relevant stakeholders, Reviewing and analysis of version 1.0 platform with all functions, data integrations, current hard/software) (online and in Jordan).

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

- Provide a short inception report (10-15 pages) outlining the overall approach to the establishment of the platform, including an overview of its features and timeline of implementation (roadmap)
- Introduce inception report to GIZ and its Partners in the Jordanian water sector (online or in Jordan)

3.2 Work package 2: NWMP Digital Platform 2.0 Establishment:

- Conduct interviews and meeting with relevant stakeholders and units in the water sector (selection facilitated by GIZ and its Jordanian Partners) to coordinate technical requirements (online or in Jordan – case to case decision).
- Based on inception phase, establish a final NWMP Digital Platform 2.0 that is aligned to the NWMP process. Align implementation with the establishment of the NWMP Unit.
- Throughout platform development, perform regular feedback loops on milestones/prototypes of platform development with GIZ WSG to incorporate suggestions and feedback by GIZ and Partners.

3.3 Work package 3: Launch Workshop of final product

- Present final platform to decision makers and experts of the Jordanian water sector (in Jordan). Showcase all functions of NWMP Digital Platform 2.0.

3.4 Work package 4: Training for platform users:

- Perform trainings for staff from Jordanian water institutions, incl. MWI, WAJ, JVA, on how to use, maintain and update the platform.
- Special focus should be on platform users within MWI and its NWMP Unit.

3.5 Work package 5: Handover of final product to MWI

- Handover final product to the MWI
- Respond to technical user inquiries by GIZ and MWI during handover phase
- Support during go-live and deployment
- Bug fixing during a transfer period
- Knowledge transfer and administrator training
- Provision of technical documentation and source code

The contractor shall provide post-deployment support for a minimum period of three months following handover procedure. This support shall include troubleshooting, correction of defects, assistance during go-live, and technical support to designated administrators.

3.6 Coordination:

- Under the supervision of GIZ WSG, coordinate with local GIZ contractors supporting the NWMP process, particularly GIZ external consultancies in charge of establishing the NWMP unit in the MWI. Align implementation of services to the unit's

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

establishment and identify synergies in implementation, e.g. coordinating joint training, and NWMPU M&E principles.

- The contractor is responsible for selecting, preparing, training and steering the international and national, short and long-term experts assigned to perform the advisory tasks.
- The contractor provides equipment and supplies (consumables) and assumes the associated operating and administrative costs.
- The contractor manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.

4. Term, schedule, milestones and inputs of GIZ or other actors

The expected term of the contract is 6 months.

The following dates/deadlines apply for achieving the milestones:

Milestones	Delivery date/period
Inception meeting with GIZ	One week after awarding/Online
Kick-off with Jordanian water institutions	Second week after awarding/in Amman
Final Inception report (needs assessment, gap analysis, roadmap, overall approach, mapping results)	6 th week after awarding
Introduce inception report	2 weeks after inception report submission/Online or in Amman
Submission of first draft version of the Digital platform V 2.0	After 4 months of awarding
Submission of final version	After 5 months of awarding
Training & Handover	After 6 months of awarding

Approximate contract duration: Six months from the signing of the contract providing the project is extended.

Inputs of GIZ or other actors

GIZ and/or other actors are expected to make the following available:

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

- Assigning a focal point from the counterpart side (MWI)
- Official letters and permissions for work facilitation (GIZ, MWI)
- Logistics for workshops: Facilitation by GIZ, Costs are covered above by the contractor based on invoices and evidence (see chapter 11.4).

5. Granting rights of use

Section 3.1 of the General Terms and Conditions for EVB-IT Service Contracts (EVB-IT-Service-AGB) applies for the transfer to both GIZ and to the partner organisations.

6. Data protection

The provisions on data protection and information security of the current version of GIZ's General Terms and Conditions of Contract (section 1.10 Data protection) apply. When the GIZ hires a contractor to develop or upgrade a data processing system (platform, website, app etc.) on behalf of a local partner, who determines the purposes and means of the data processing activity, the GIZ does not bear ANY responsibility for such processing. Although the GIZ builds such systems in conformity with the highest data protection standards, its responsibilities end with the handing over of the systems to the partner. As a data controller, the partner must ALONE comply with all local and regional laws applicable to such processing (including the GDPR, where applicable). Consequently, the data protection principles such as lawfulness, data minimization, accuracy, purpose limitation, storage limitation, transparency, integrity and confidentiality, and accountability, as well as the numerous rights of the data subject should be paid due attention.

7. Information security

The contractor shall deliver the services described in these ToR in accordance with the information security requirements set out in the Information Security Annex (**Annex 5**).

8. Language

In deviation from Sections 1.2., 6.1 and 8.1. of the General Terms and Conditions for EVB-IT Service Contracts, the contractor shall provide the services in English.

9. Technical and methodological concept

In the conceptual design of the tender (technical and methodological approach, project management, if necessary other requirements), the tenderer is required to take specific objectives and requirements into consideration and describe them as explained below.

9.1 Requirements for the technical and methodological concept (Section 1 of the assessment grid)

In the tender, the tenderer is required to show *how* the services specified in Section 3 are to be provided, where relevant taking account of other specific methodological requirements (Section 0) (technical and methodological concept).

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

9.1.1 Assessment of the requirements

The tenderer must assess the objective and the requirements of the IT solution (see Sections 1 and 2) in relation to feasibility and to what particular (non-)technical difficulties must be taken into account in the IT solution to be developed by the tenderer in order to achieve the objective (Section 1.1 of the assessment grid).

9.1.2 Project management and development methodology

The tenderer should consider the design of the project management process and describe their methodology for development/implementation, taking into account the described work packages (Section 3) and compliance with the milestones (Section 4) (Section 1.2 of the assessment grid).

9.1.3 Operational plan/personnel assignment plan

The tenderer must create and explain an operational plan that also includes a personnel assignment plan for all of the specialist staff that they offer. The operational plan must depict the assignment periods (time period and expert days) and, in particular, describe the necessary work steps and take account of and, where necessary, supplement the milestones as per Section 4 (Section 1.3 of the assessment grid).

9.1.4 Test and documentation concept

The tenderer must describe the process for testing and documenting the IT solution and the IT security and documentation standards used (Section 1.4 of the assessment grid).

9.2 Additional requirements (Section 2 of the assessment grid)

– not applicable –

10. Human resources

The tenderer is required to propose personnel on the basis of relevant CVs for the positions (as experts) specified and described here in terms of the areas of responsibility and qualifications. **The requirements regarding the format and content of the CVs are set out in Section 12.**

The qualifications set out below reflect the requirements for achieving the maximum number of points in the technical assessment.

'One year of professional experience' is understood to mean 12 cumulative expert months with at least 18 expert days per month, provided no diverging definition is specified for individual qualifications.

10.1 Team leader (Section 3.1 of the assessment grid)

This position is a key expert. A statement of availability for this expert must be attached to the tender as an annex.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

Responsibilities of Team leader:

- Overall responsibility for the advisory packages of the contractor (quality and deadlines)
- Coordinating and ensuring communication with GIZ, partners and others involved in the project to understand the strategic objectives and ensure the alignment of the project objectives and the results.
- Present, discuss and update the platform screens and analysis tools with GIZ and the partners, regular exchange with the partners on the procedure.
- Personnel management, in particular identifying the need for short-term assignments within the available budget, as well as planning and steering assignments and supporting local and international short-term experts.
- Regular reporting in accordance with deadlines.
- Lead the team that is responsible for achieving the project objectives.

Qualifications of Team leader:

Education/training (Section 3.1.1 of the assessment grid)	Bachelor's degree in water resources management with proper information technology background or any related field.
Language (Section 3.1.2 of the assessment grid)	Knowledge of English, C1-level in the Common European Framework of Reference for Languages.
General professional experience (Section 3.1.3 of the assessment grid)	5 years of professional experience in the water resources management.
Specific professional experience (Section 3.1.4 of the assessment grid)	3 years in digital Location Intelligence SaaS platform and spatial analytics systems development related to water resources reporting digital solutions.
Leadership/management experience (Section 3.1.5 of the assessment grid)	3 years of management/leadership experience as project team leader or manager in a company.
Regional experience (Section 3.1.6 of the assessment grid):	5 years of experience in projects in the following countries or territories within the Middle East and North Africa (MENA) region: Arab States of the Middle East and North Africa, including Jordan, Lebanon, Syria, Iraq, Palestine, Egypt, Gulf Cooperation Council countries, and North African countries.
Experience in the field of development cooperation (Section 3.1.7 of the assessment grid)	3 years of experience in DC projects.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

10.2 Key Expert 1: Senior GIS Specialist (Section 3.2 of the assessment grid)

This position is a key expert. A statement of availability for this expert must be attached to the tender as an annex.

Responsibilities of Key Expert 1

- Understand the requirements and the objectives of the assignment.
- Setting up and maintaining the needed GIS databases.
- Ensuring compatibility of the databases with existing systems.
- Developing and documenting data management workflows.
- Propose the best practices solutions and tools to develop the platform.
- Support Key expert 2 in the design of user interfaces, screens, Dashboards, and analysis tools.

Qualifications of Key Expert 1

Education/training (Section 3.2.1 of the assessment grid)	Master's degree in Geomatics, Environmental Science, Civil Engineering, or a related field.
Language (Section 3.2.2 of the assessment grid)	Knowledge of English, C1-level in the Common European Framework of Reference for Languages.
General professional experience (Section 3.2.3 of the assessment grid)	5 years of professional experience in the sector of GIS data processing, spatial analysis, and database management.
Specific professional experience (Section 3.2.4 of the assessment grid)	<i>3 years of professional experience in GIS tools and technologies, including ArcGIS, AutoCAD, designing and implementing GIS data models. Location Intelligence models is an asset.</i>
Regional experience (Section 3.2.6 of the assessment grid):	3 years of experience in projects in the following countries or territories within the Middle East and North Africa (MENA) region: Arab States of the Middle East and North Africa, including Jordan, Lebanon, Syria, Iraq, Palestine, Egypt, Gulf Cooperation Council countries, and North African countries.
Experience in the field of development cooperation (Section 3.2.7 of the assessment grid):	2 years of experience in DC projects.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

10.3 Expert 2: GIS Software Developer (Section 3.3 of the assessment grid)

Responsibilities of Expert 2

- Understand the requirements and the objectives of the assignment
- Develop all the required platform screens and internal operations according to the requirements
- Present, discuss and update the platform screens and analysis tools with GIZ and the partners, regular exchange with the partners on the procedure.
- Apply any needed changes or new requests from GIZ and partners after testing each tool or screen.
- Propose the best practices solutions and tools to develop the platform.
- Integrating NWMP Platform with existing tools used in the Jordanian water sector.
- Providing training (Formal and On-the-Job) to Water Sector staff on developed application.

Qualifications of Expert 2

Education/training (Section 3.3.1 of the assessment grid)	Bachelor's degree in Geomatics, Information Technology, Software engineering, Data Science, or any related subject.
Language (Section 3.3.2 of the assessment grid)	Knowledge of English, C1-level in the Common European Framework of Reference for Languages.
General professional experience (Section 3.3.3 of the assessment grid)	5 years of professional experience in the sector of GIS data processing, spatial analysis, and database management.
Specific professional experience (Section 3.3.4 of the assessment grid)	3 years of professional experience in programming and development of GIS based web-Applications and Business Intelligence related systems.
Regional experience (Section 3.3.6 of the assessment grid):	3 years of experience in projects in the following countries or territories within the Middle East and North Africa (MENA) region: Arab States of the Middle East and North Africa, including Jordan, Lebanon, Syria, Iraq, Palestine, Egypt, Gulf Cooperation Council countries, and North African countries.
Experience in the field of development cooperation (Section 3.3.7 of the assessment grid):	- not applicable -
Others (Section 3.3.8 of the assessment grid)	- not applicable -

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

The tenderer must assign all the proposed experts to the required qualifications and clearly present them in a separate table preceding the CVs. The summary presentation must mention only qualifications that are actually indicated in the CVs. Evidence of professional experience must be rendered in the form of meaningful references in the CVs. It is advisable to make specific reference to each instance of professional experience.

Soft skills of team members

In addition to their specialist qualifications, all team members are also expected to have the following qualifications:

- Team skills
- Initiative
- Communication skills
- Socio-cultural skills
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking
- Conflict resolution
- Spatial thinking.
- Visual Spatial storytelling.
- Cross-team communication (GIS, Data and Users).
- working methods
- Interdisciplinary thinking

Soft skills will not be evaluated.

11. Costing requirements

11.1 Assignment of experts

In your tender, please do not deviate from the specification of quantities required in these ToR (number of experts and expert days, budget specified in the price schedule). This is part of the competitive tender and is used to ensure that the tenders can be compared objectively. Please note: only services that were commissioned by GIZ and rendered by the contractor will be remunerated. We would also like to point out that it may not be necessary to make use of the total number of proposed expert days.

The number of expert days corresponds to full working days.

Expert	Expert days
Team Leader	40
Key Expert 1: Senior GIS Specialist	60
Expert 2: GIS Software Developer	40

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan’s Third National Water Master Plan process

Transaction number:

11.2 Travel expenses

11.2.1 Travel – sustainability considerations

GIZ would like to reduce greenhouse gas emissions (CO₂ emissions) caused by travel. When preparing your tender, please incorporate options for reducing emissions, for example by selecting the lowest-emission booking class (economy) or using means of transport, airlines and flight routes that are more CO₂-efficient. For short distances, travel by train (second class) or e-mobility are the preferred options.

CO₂ emissions resulting from air travel must be offset. GIZ specifies a budget for this which enables carbon offsets can be settled against evidence.

There are many different providers in the market for emissions certificates, and they have different climate impact ambitions. The [Development and Climate Alliance](#) has published a [list of standards](#). GIZ recommends using these standards.

11.2.2 Travel expense requirements

Travel expenses must be costed as follows by the contractor:

Travel expense item	Number/quantity/budget
International flights	12
Carbon offsets for flights	1200 EUR An unalterable budget for carbon offsets for settlement against evidence is specified.
Airport transfers (by car) in Jordan	12
Airport transfers (by car or train) in country of origin	12
Per diem allowances	65; up to 57 EUR each
Accommodation allowances	65; up to 134 EUR each
Other travel expenses (visa fees)	12

Per-diem allowances are reimbursed as a lump sum up to the maximum amounts permissible under tax law for each country as set out in the country table in the circular from the German Federal Ministry of Finance on travel expense reimbursement (download at <https://www.bundesfinanzministerium.de>).

Notes on settling accommodation allowances outside Germany.

For Jordan accommodation allowances of up to EUR 134 may be proposed in your tender. This is equivalent to the maximum rate permissible under tax law, as stipulated in the BMF circular on travel expense reimbursement.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

- If accommodation allowances proposed in the tender are equivalent to up to 75% (EUR 100,50) of the maximum rates permissible under tax law as set out in the BMF circular on travel expense reimbursement, they will be reimbursed **as a lump sum** which shall be the contractually agreed sum.
- If accommodation allowances proposed in the tender are equivalent to between 75% and 100% (EUR 134) of the maximum rates permissible under tax law as set out in the BMF circular on travel expense reimbursement, the **costs for which evidence is provided** will be reimbursed up to the contractually agreed sum.

All travel must be agreed in advance with the officer responsible for the project. Travel expenses must be kept as low as possible.

11.3 Materials and equipment

– not applicable –

11.4 Workshops, training

The contractor will conduct the following 4 workshops/training courses:

- Introduction of inception report to GIZ and its Partners
- Launch workshop of final product
- Up to 2 training/capacity building sessions for staff from Jordanian water institutions, incl. MWI, WAJ, JVA, on how to use, maintain and update the platform. Topics and number of participants to be defined based on the Capacity Building Plan and Training Material deliverables.

The contractor is not responsible for the logistical organization of the workshops and therefore the costs do not need to be specified. Costs will be covered by the project. This also includes potential travel costs for invited participants to the 4 workshops / training courses.

11.5 Hosting

– not applicable –

11.6 Other costs

– not applicable –

11.7 Flexible remuneration

Budget for flexible remuneration: EUR 12.000

The fixed, unalterable budget above is given in the price schedule for flexible remuneration. Flexible remuneration is intended to facilitate the flexible management of the contract by the officer responsible for the commission at GIZ. The contractor can make use of the funds in accordance with Section 21.5 of the GIZ's Special Terms and Conditions of Contract.

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

12. Requirements on the format of the tender

The structure of the tender must correspond to the structure of the ToR. It must be legible (font size 11 or larger) and clearly formulated. The technical bid must be submitted in English.

The technical and methodological concept of the tender (Section 9 of the ToR) is not to exceed 30 pages (not including the cover page, list of abbreviations, table of contents and brief introduction). Additional annexes not requested will not be assessed. External content (e.g. links to websites) will also not be considered.

The CVs of the staff proposed in accordance with Section 10 of the ToR must be in the EU format and not more than 4 pages in length. The CVs must clearly show what position the proposed person held, which tasks they performed and how many expert days they worked during which period in the specified references. The CVs have to be submitted in English.

We strongly request that you do not exceed the number of pages specified.

The CVs must clearly and unequivocally show what position the proposed person held, which tasks they performed and how long they worked during which period in the specified references. **The references contained in the CVs must therefore include the following information:**

- Name of the company/organisation/reference project in which the expert worked
- Position held and task(s) performed by the expert in the company/organisation/reference project
- Work outcomes or products produced by the expert, or expert's contribution to the completion of these outcomes and projects (if relevant)
- Duration of the expert's assignment in the company/organisation/reference project per calendar year in full-time expert days, weeks or months (for example: 2019: 2 months, 2020: 10 months, 2021: 1 month)
- Leadership experience/management: clear information on the reference projects or fixed positions within the company/organisation in which the requirements specified in Section 0 were fulfilled (for example, period, number of persons for whom the expert had disciplinary responsibility, project budget) (if relevant)
- International professional experience/professional experience in the country of assignment: clear information on the reference projects or fixed positions in the company/organisation in which the requirements specified in Section 0 were fulfilled (for example, actual duration of assignment on the ground in full-time expert days, weeks or months) (if relevant)

In order to facilitate the assessment, we request that you number the references consecutively and provide only references that are clearly related to the object of this tender.

13. Annexes

- *Annex 1 - 3rd NWMP-Rapid Assessment*

Works/services to be put out to tender: Update and expansion of the dynamic Digital Platform as part of Jordan's Third National Water Master Plan process

Transaction number:

- *Annex 2 - NWMP-3 Digital Platform Final report*
- *Annex 3 - NWMP-3 Digital Platform Training Manual*
- *Annex 4 - Information Security*