

Terms of Reference (ToR)

Digitalization Consultant

1. Introduction

Karachi, Pakistan's largest metropolitan area, faces immense challenges in water supply and sewerage service delivery. The Karachi Water and Sewerage Corporation (KW&SC) is responsible for providing WASH services to nearly 17 million residents. However, current operations are constrained by fragmented legacy systems, low integration across business functions, limited IT governance, weak cybersecurity posture, and insufficient consumer engagement mechanisms. These shortcomings have a direct impact on service efficiency, financial sustainability, and consumer trust.

The Karachi Water and Sanitation Services Improvement Project (KWSSIP), supported by the World Bank, AIIB, and the Government of Sindh, aims to improve water supply and sanitation services in Karachi and strengthen the operational and financial performance of the Karachi Water and Sewerage Corporation (KW&SC).

To address these challenges, KW&SC has adopted its Information Technology Strategy. This strategy is a comprehensive reform roadmap that establishes an integrated, cyber-secure, and consumer-centric IT environment. It spans governance, infrastructure, cybersecurity, productivity systems, consumer touchpoints, and organizational strengthening, with phased implementation between 2025 and 2028.

In this context, KW&SC intends to engage a Consultant in an IT Strategy Implementation Support role. The consultant will provide technical assistance, advisory support, and institutional strengthening to ensure the effective roll-out of the IT Strategy, alignment with international best practices, and sustainability of outcomes.

Engagement Schedule:

The Consultant will provide 40 hours per week for first 30 days and 30 hours per week subsequently. Remunerations would be accordingly agreed upon.

2. Scope / Objectives

The Consultant will be responsible for supporting the Chief Information Technology Officer (CITO) in guiding the execution of the IT Strategy. This includes:

- Assisting in establishing IT governance and monitoring frameworks.
- Supporting implementation of the data centers/Locations inhouse or collocations, cybersecurity infrastructure, ERP, and utility productivity systems with special emphasis on but not limited to initiatives on GIS, Asset Management, Meters, Project Management, Grievance Redressal Mechanisms, Laboratory Management Systems, Non-Revenue Water, Automation on Monitoring and Evaluation, Processes re-

engineering with technology interventions, augmentation in touch-point and customer engagement strategies and general transformation to digital organization.

- Coordinating with vendors and contractors to ensure compliance with standards and delivery of agreed milestones.
- Facilitating capacity building, knowledge transfer, and organizational change management by creating training and associated methodologies.

3. Key Responsibilities

i. IT Governance and Strategy Execution

- a. Support CITO in operationalizing the IT Steering Committee.
- b. Assist in drafting, reviewing, and implementing IT policies, SOPs, and governance frameworks.
- c. Track performance against key indicators and prepare progress reports.
- d. Facilitate alignment of IT initiatives with corporate objectives, regulatory compliance, and global standards

ii. Technology Infrastructure and Security

- a. Provide advisory support in design, commissioning, and monitoring of centralized data centers, technology architecture and locations housing IT infrastructure.
- b. Guide implementation of network upgrades, structured cabling, DR/BCP frameworks, and licensing compliance.
- c. Oversee rollout of cybersecurity measures, including SOC, SIEM, IAM/PAM, and vulnerability testing.
- d. Ensure vendor deliverables meet required security, availability, and reliability standards.

iii. Business and Utility Systems Integration

- a. Support the implementation and integration of ERP modules (finance, HR, procurement, supply chain, asset management) in addition to Utility productivity systems including GIS, Asset Management, Meters, Project Management, Grievance Redressal Mechanisms, Laboratory Management Systems, Non-Revenue Water, Automation on Monitoring and Evaluation, Processes re-engineering with technology interventions, augmentation in touch-point and customer engagement strategies and general transformation to digital organization.
- b. Facilitate automation of workflows, digitization of documents, collaboration solutions including email system; and adoption of AI-enabled analytics and dashboards.
- c. Assist in deploying consumer-facing applications (mobile, web portals, call center systems) with unified communication channels.

iv. Project Management and Vendor Oversight

- a. Provide guidance in procurement planning, RFP development, and contract negotiations.
- b. Monitor vendor performance and enforce SLAs.
- c. Advise on risk identification, mitigation, and escalation protocols.

- v. **Capacity Development and Change Management**
- a. Facilitate training workshops for IT staff in governance, cybersecurity, ERP, and project management.
 - b. Develop and plan trainings for organizational culture and behavior change management as the technology solutions are implemented. A continuous improvement plan for all the cadres and positions to accommodate sustainable change.
 - c. Support succession planning within the IT Division.
 - d. Assist in institutionalizing best practices for knowledge retention and system sustainability.
 - e. Promote organizational culture of data-driven decision-making and consumer-centric service.

Position Requirements / Core Competencies

- Master's degree in **Information Technology, Computer Science, or related field** (18 years of education).
- Minimum **15–18 years of progressive experience** in IT governance, strategy implementation, and digital transformation preferably in utility organizations.
- Proven expertise in **IT systems, ERP, data centers, cybersecurity, and consumer service technologies**.
- Demonstrated experience with various standards or frameworks.
- Strong vendor management and contract oversight skills.
- Experience in capacity building, institutional strengthening, and knowledge transfer.
- Excellent analytical, communication, and stakeholder engagement skills.

4. Reporting Line

- Reports directly to the **Chief Information Technology Officer (CITO)**.
- Works closely with the **IT Steering Committee**, departmental heads, and project managers.