

**THE UNITED REPUBLIC OF TANZANIA
TANZANIA COMMUNICATIONS REGULATORY AUTHORITY
ISO 9001:2015 CERTIFIED**



VACANCY ANNOUNCEMENT

TANZANIA COMMUNICATIONS REGULATORY AUTHORITY

The Tanzania Communications Regulatory Authority (TCRA) is a quasi-independent Government body responsible for regulating the Communications in Tanzania. It was established under the Tanzania Communications Regulatory Act No.12 of 2003 to regulate the electronic communications, Postal services and Broadcasting (*for Mainland Tanzania only*) in the United Republic of Tanzania. The Authority became operational on 1st November 2003 and effectively took over the functions of the now defunct Tanzania Communications Commission (TCC) and Tanzania Broadcasting Commission (TBC) respectively.

For effective implementation of its duties and responsibilities, TCRA hereby invites applications from suitably qualified Tanzanians to fill the following vacancies in its establishment.

1.0 Job Position: SENIOR ICT OFFICER II (Data Scientist/Engineer)- Two Positions

(a) Job Purpose

Designing, building, testing, integrating, managing, and optimizing data from a variety of sources. Overseeing data infrastructure and architecture that enable data generation. Create and integrate APIs, building and maintaining free-flowing data pipelines by combining a variety of big data technologies that enable real-time analytics; prepare readiness of data, such as formats, resilience, scaling, and security. Oversee the activities of the data science teams and provides advanced expertise on statistical and mathematical concepts for broader analysis of data and synthesizing and leveraging the dataset and data to enhance informed decision making.

(b) Duties and Responsibilities

- (i) Build and maintain data infrastructure and architecture that enable data generation;
- (ii) Provides technical assistance in the identification, evaluation and development of data warehousing systems and procedures;

- (iii) Design and support table schemas and database for new and existing data sources for the business's data warehouse;
- (iv) Develop and manage distributed systems for the analysis of large volumes of data;
- (v) Create and support the ETL to facilitate the on-boarding of data into the data warehouse through the use of SSIS and other technologies;
- (vi) Provides input to physical database development and data modeling standards and constantly reviews the database structures;
- (vii) Determine business metadata definitions for all data services supported in the databases;
- (viii) Conduct review sessions and ensures that all solutions are pre-defined and aligned to architectural specifications.;
- (ix) Create and update technical documentation for all ETL and data warehouse flows and processes;
- (x) Works with data analytic teams in the creation and maintenance of specific sets of applications, business intelligence databases, and spanning data warehouse;
- (xi) Carry out daily, weekly and monthly data analysis as generated through TTMS database and provide informed business related outputs;
- (xii) Discover insights and identify opportunities through the use of statistical, algorithmic, mining and visualization techniques;
- (xiii) Perform data translations and produce useful actable reports;
- (xiv) Assess the effectiveness and accuracy of new data sources and data gathering techniques;
- (xv) Develop processes and tools to monitor and analyze system performance and data accuracy;
- (xvi) Conduct research and promote new techniques and data warehousing solutions that shape the future of the data warehousing;
- (xvii) Performs other duties related to the above as may be assigned by the Supervisor

(c) Qualifications and Experience

Holder of at least a Master Degree in Computer Science, Computer Engineering, Telecommunications Engineering, Data Science or equivalent qualifications from recognized institution with working experience of at least seven (7) years in related field.

(d) Person Specifications

A: Essential Skills/Abilities

- i. Demonstrate knowledge of database concepts of data mapping and modelling inclusive of normalization, referential integrity, dimensionality, keys, indexes, metadata and master data.
- ii. Have a proven experience working with ETL concepts of data integration, consolidation, enrichment and aggregation.
- iii. Have experience in working with SQL server database administration, integration services, analysis services and query language.
- iv. Demonstrate understanding of dimensional modelling; data warehousing techniques; and experience on relational or multi-dimensional databases and business intelligence architectures.
- v. Excellent analytical skills;
- vi. Excellent command of English and Kiswahili languages;
- vii. Demonstrated ability to work both independently and collaboratively as a team player with good interpersonal skills;
- viii. Ability to plan, organize, prioritize and manage complex and delicate tasks;
- ix. Results and Performance-Driven with commitment to realization of the Authority's Strategic objectives.

B: Desirable:

- (i) A person with good communication skills, orally articulate, good written communication skills, good writer, good analyser, good listener and critical thinker;
- (ii) Ability to draw reasonable, logical conclusions or assumptions from limited information;
- (iii) Display a great deal of creativity and pays attention to details;
- (iv) Proficiency in programming languages like Java, Python, Scala, C, or equivalent.
- (v) Passion and skills in research and analytics as well as a passion for data management tools and technologies. Possess extensive knowledge of SQL, a deep understanding of database full life-cycle designing, and application development.
- (vi) High-level development skills in SQL and PowerShell scripting as well as SQL Server Clustering, Reporting services and Replication.

2.0 Job Position: ICT OFFICER I (Data Scientist/Engineer)- Six Positions

(a) Job purpose

Designing, developing and maintaining regulatory tools that extract and process data, crafting and executing queries upon request for data and Presenting information through reports and visualization. Aanalysing large amounts of raw information to find patterns that will help improve the Authority's decisions as well as build data products, extract valuable business insight so as to create and manage analytics solutions that turn data into knowledge.

(b) Duties and Responsibilities

- (i) Identify valuable data sources and automate collection processes
- (ii) Undertake preprocessing of structured, semi-structured and unstructured data
- (iii) Analyze large amounts of information to discover trends and patterns
- (iv) Build predictive models and machine-learning algorithms
- (v) Present information using data visualization techniques
- (vi) Initiate solutions and strategies to business challenges
- (vii) Collaborate with engineering and product development teams to translate business needs to technical specifications
- (viii) Perform data translations and produce useful reports;
- (ix) Assist to assess the effectiveness and accuracy of new data sources and data gathering techniques;
- (x) Assist to develop tools to monitor and analyse system performance and data accuracy.
- (xi) Monitor authenticity and quality of data traffic as received from various operator platforms
- (xii) Design, build and deploy business intelligence (BI) solutions (e.g. reporting tools) and tools to store data (e.g. OLAP cubes)
- (xiii) Collaborate with development teams to integrate systems
- (xiv) Conduct unit testing and troubleshooting
- (xv) Evaluate and improve existing BI systems
- (xvi) Develop and update technical documentations
- (xvii) Performs other duties related to the above as may be assigned by the Supervisor

(c) Qualifications and Experience

Holder of Bachelor Degree in Computer Science, Computer Engineering, Telecommunications Engineering, Information Systems, Data Science or

equivalent qualifications from recognized institution with working experience of at least four (4) years in related field.

(d) Person Specifications

A: Essential Skills/Abilities

- (i) Experience in data mining
- (ii) Understanding of machine-learning and operations research
- (iii) Knowledge of SQL, R, Perl and Python; SQL Server Reporting Services (SSRS) and SQL Server Integration Services (SSIS); familiarity with Scala, Java or C/C++ or equivalent.
- (iv) Experience using business intelligence tools (e.g. Tableau) and big data frameworks
- (v) Background in data warehouse design (e.g. dimensional modeling) and data mining
- (vi) In-depth understanding of database management systems, online analytical processing (OLAP), ETL (Extract, transform, load) frameworks;
- (vii) Strong math skills (e.g. statistics, algebra)
- (viii) Excellent command of English and Kiswahili languages;
- (ix) Proven abilities to take initiative and be innovative
- (x) Demonstrated ability to work both independently and collaboratively as a team player with good interpersonal skills;
- (xi) BSc/BA in Computer Science, Computer Engineering, Data Science or relevant field;
- (xii) Performs other duties related to the above as may be assigned by the Supervisor

B: Desirable:

- (i) A person with good communication skills, orally articulate, good written communication skills, good writer, good analyser, good listener and critical thinker;
- (ii) Ability to draw reasonable, logical conclusions or assumptions from limited information;
- (iii) Display a great deal of creativity and pays attention to details
- (iv) Ability to work with SQL, R, Perl and Python. Have knowledge of SQL Server Reporting Services (SSRS) and SQL Server Integration Services (SSIS); familiarity with Scala, Java or C/C++ or equivalent.

3.0 Job Position: ICT OFFICER I (Database Administrators)- Two Positions

(a) Job Purpose

Keeping the database up and running smoothly 24/7 in order to provide a seamless flow of information throughout the Authority, considering both backend data structure and frontend accessibility for end-users.

(b) Duties and Responsibilities

- i. Build database systems of high availability and quality depending on each end user's specialized role
- ii. Define users and enable data distribution to the right user, in appropriate format and in a timely manner
- iii. Implement high-speed transaction recovery techniques and backup solutions
- iv. Minimize database downtime and manage parameters to provide fast query responses
- v. Provide proactive and reactive data management support and training to users
- vi. Determine, enforce and document database policies, procedures and standards
- vii. Perform tests and evaluations regularly to ensure data security, privacy and integrity
- viii. Monitor database performance, implement changes and apply new patches and versions when required
- ix. Assists to determines optimal database design including all relevant factors such as memory, disk space allocation, program performance, Extract, Transform and Load (ETL) services, and growth trends;
- x. Assists to develop backup, replications and recovery solutions along with periodic testing; and
- xi. Identify and implement proactive monitoring solutions to allow for early problem detection and prevent issues from influencing performance or availability.

(c) Qualifications and Experience

Holder of Bachelor Degree in Computer Science, Computer Engineering, Information Technology, Information Systems, Data Science or equivalent qualifications from recognized institution with working experience of at least four (4) years in related field.

(d) Person Specifications

A: Essential Skills/Abilities

- (i) Proven working experience as a Database administrator,
- (ii) Hands-on experience with database standards and end user applications
- (iii) Excellent knowledge of data backup, recovery, security, integrity and SQL
- (iv) Proven experience in documentation and coding
- (v) Previous experience with DBA case tools (frontend/backend) and third party tools
- (vi) Familiarity with programming languages API
- (vii) Excellent analytical skills;
- (viii) Excellent command of English and Kiswahili languages;
- (ix) Demonstrated ability to work both independently and collaboratively as a team player with good interpersonal skills;

B: Desirable:

- (i) A person with good communication skills, orally articulate, good written communication skills, good writer, good analyser, good listener and critical thinker;
- (ii) Ability to draw reasonable, logical conclusions or assumptions from limited information;
- (iii) Display a great deal of creativity and pays attention to details;

4.0 Job Position: SENIOR TELECOMMUNICATION ENGINEER II- One Position

(a) Job purpose

Carrying out installations, monitoring, repairing and maintaining communications equipment and systems.

(b) Duties and Responsibilities

- i. Design and deploy functional networks (LAN, WLAN, WAN)
- ii. carry out new installations, fault restorations and upgrades to enable efficient operations of the TTMS
- iii. Carry out configurations and installation of software, servers, routers and other network devices
- iv. Manage TTMS data flows and ensure data accuracy and integrity
- v. Attend all issues related to support as escalated by NOC team by troubleshooting the TTMS network and data sources in operator platforms

- vi. Manage the health status of the TTMS infrastructure including initiations/formulation of new applications to achieve the same.
- vii. Create, oversee and test security measures (e.g. access authentication)
- viii. Maintain a complete TTMS Infrastructure technical documentation
- ix. Maintain configurations of all equipment in the TTMS network
- x. Carry out drills for the disaster recovery preparedness.
- xi. Performs other duties assigned by the supervisor.

(c) Qualifications and Experience

Holder of at least Master Degree in Telecommunications, Electronics, Electrical Engineering or equivalent qualifications from recognised institutions with working experience of at least seven (7) years in related field. Must be registered by the Engineers Registration Board as Professional Engineer.

(d) Person Specifications

A: Essential Skills/Abilities

- (i) Familiarity with MS Office, Excel, Outlook and databases
- (ii) Familiar with mobile telecommunication networks including 2G, 3G and 4G networks as well as computer networking and all related systems and devices.
- (iii) In-depth understanding of communication protocols e.g. SS7, SIGTRAN, SIP, BICC and routing protocols (e.g. BGP, OSPF etc)
- (iv) Ability to work with network diagnostic, monitoring and analysis tools (e.g. Wireshark)
- (v) Professional certification (e.g. CCNA, CCNP)
- (vi) Knowledge of coding languages for scripting (e.g. shell scripting, Python, Perl, R)
- (vii) Sharp troubleshooting skills,
- (viii) Ability to work independently
- (ix) Hands on experience with all telecommunications systems including core network, access networks and Operation and Maintenance Systems
- (x) Excellent analytical skills;
- (xi) Excellent command of English and Kiswahili languages;
- (xii) Demonstrated ability to work both independently and collaboratively as a team player with good interpersonal skills;
- (xiii) Ability to plan, organize, prioritize and manage complex and delicate tasks;
- (xiv) Results and Performance-Driven with commitment to realization of the Authority's Strategic objectives.

B: Desirable:

- (i) A person with good communication skills, orally articulate, good written communication skills, good writer, good analyser, good listener and critical thinker;
- (ii) Ability to draw reasonable, logical conclusions or assumptions from limited information;
- (iii) Display a great deal of creativity and pays attention to details;

5.0 Job Position: TELECOMMUNICATION ENGINEERS I- Two Positions

(a) Job Purpose

Carry out installations, monitoring, repairing and maintaining communications equipment and systems.

(b) Duties and Responsibilities

- (i) Perform daily monitoring of the tele-traffic monitoring system.
- (ii) Manage all transmission links that are connected to the service providers.
- (iii) Carry out preventive maintenance and upgrades needed for the Telecommunications Traffic Monitoring System infrastructures.
- (iv) Carry out field works for anti-fraud and CEIR Operations.
- (v) Prepare technical performance reports of the TTMS.
- (vi) Collaborate with mobile network providers to ensure TTMS data flows are accurate.
- (vii) Prepare and update TTMS equipment inventory.
- (viii) Assist to develop tools for monitoring and analysis of system performance and data accuracy.
- (ix) Assist to determine optimal database design including all relevant factors such as memory, disk space allocation, program performance, Extract, Transform and Load (ETL) services, and growth trends;
- (x) Identify and implement proactive monitoring solutions to allow for early problem detection and prevent issues from influencing performance or availability; and
- (xi) Performs other related duties as may be assigned by the supervisor.

(c) Qualifications and Experience

Holder of Bachelor Degree in Telecommunications Engineering, Computer Engineering or equivalent qualifications from recognized

institution with working experience of at least four (4) years in related field. The individuals shall be registered as Graduate Engineer by the Engineers Registration Board.

(d) Person Specifications

A: Essential Skills/Abilities

- i. Familiarity with MS Office, Excel, Outlook and databases
- ii. Understanding of 2G, 3G and 4G networks (including the core network, access networks and Operation and Maintenance Systems)
- iii. In-depth understanding of communication protocols e.g. SS7, SIGTRAN, SIP, BICC and routing protocols (e.g. BGP, OSPF etc)
- iv. Ability to work with network diagnostic, monitoring and analysis tools (e.g. wireshark)
- v. Adequate interpersonal and organizational skills
- vi. Team player with customer service orientation
- vii. Excellent analytical skills;
- viii. Excellent command of English and Kiswahili languages;
- ix. Demonstrated ability to work both independently and collaboratively as a team player with good interpersonal skills;
- x. Ability to plan, organize, prioritize and manage complex and delicate tasks;

B: Desirable:

- (i) A person with good communication skills, orally articulate, good written communication skills, good writer, good analyser, good listener and critical thinker;
- (ii) Ability to draw reasonable, logical conclusions or assumptions from limited information;
- (iii) Display a great deal of creativity and pays attention to details;

6.0 Job Position: SENIOR ICT OFFICER II (Software Developer/Engineer)- THREE Positions

(a) Job Purpose

Designing and developing software applications based on technical solutions. The primary objective is to help TCRA be more efficient by developing technology based solutions in a cost-effective way.

(b) Duties and Responsibilities

- (i) Evaluate and identify technologies appropriate for TCRA's

operations;

- (ii) Designing, coding and debugging software applications in various software languages (Java, C/C++, .NET, PHP);
- (iii) Carry out Software testing, quality assurance and maintenance of standards compliance;
- (iv) Support & maintain TCRA systems and document software functionalities;
- (v) Integrate TCRA Application Software Systems;
- (vi) Execute other assignments as may be assigned from time to time by superiors

(c) Qualifications and Experience

Holder of at least Master Degree in Computer Science, Computer Engineering, Information Technology, Information Systems, Data Science or equivalent qualifications from recognized institution with working experience of at least seven (7) years in related field. Relevant recognized ICT professional certifications such as C, C++, Python and Ruby Python Certifications and/or Java Certified Programmers and/or Microsoft Certified Solutions Developer and/or Certified Secure Software Life cycle Professional and Strong knowledge and experience with relational database systems (preferably MS SQL Server) and SQL will be an added advantage.

(d) Person Specifications

A: Essential Skills/Abilities

- (i) Good knowledge of UML and ASP.NET, plus ADO.Net and MS Windows SDK/APIs;
- (ii) Good knowledge on Web Services, XML technologies and strong troubleshooting, debugging and analysis skills;
- (iii) Advanced knowledge of mobile application such as iOS and Android Platform, SMS Gateway, SMPP, Database Optimization;
- (iv) Practical knowledge and skills relevant to the job position.
- (v) Excellent analytical skills;
- (vi) Demonstrate ability to work collaboratively as a team player especially with system analysts and designers;
- (vii) Ability to plan, organize, prioritize and manage complex and delicate tasks;
- (viii) Results and performance-driven with commitment to realization of the Authority's strategic objectives;
- (ix) Able to work independently and manages expected deliverables;
- (x) Flexible, proactive, attention to detail, ability to work under pressure;

- (xi) Self confidence in work planning and decision making;
- (xii) A good feeling for confidentiality and working in a procedural matter.

B: Desirable

- (i) A person with good communication skills, orally articulate, good written communication skills, good writer, good analyser and good listener;
- (ii) Ability to draw reasonable, logical conclusions or assumptions from limited information;
- (iii) Display a great deal of creativity in problem solving and who pays attention to details.
- (iv) Visionary person who can create code and libraries that are open to refactoring and easy to use in all code languages and who is able to see that the impact of present-day decisions is paramount to building

6.0 GENERAL CONDITIONS

- (i) All applicants must be Citizens of Tanzania of not more than 45 years of age;
- (ii) Applicants must attach an up-to-date Curriculum Vitae (CV) having reliable contacts; postal address/post code, e-mail and telephone numbers;
- (iii) Applicants should apply on the strength of the information given in this advertisement;
- (iv) Applicants must attach their certified copies of the following certificates;
 - a. Postgraduate/Degree/Advanced Diploma/Diploma/Certificates;
 - b. Postgraduate/Degree/Advanced Diploma/Diploma transcripts;
 - c. Form IV and Form VI National Examination Certificates;
 - d. Birth certificate
- (v) Applicants who will attach copies of the following certificates will not be considered;
 - a. Form IV and form VI results slips
 - b. Testimonials and all Partial transcripts

- (vi) Applicant who have retired from the Public Service for whatever reason should not apply;
- (vii) Applicants should indicate three reputable referees with their reliable contacts;
- (viii) Certificates from foreign examination bodies for Ordinary or Advanced level education should be certified by The National Examination Council of Tanzania (NECTA) and National Council for Technical Education (NACTE);
- (ix) Certificates from foreign Universities should be verified by The Tanzania Commission for Universities (TCU);
- (x) Applicants with special needs/case (disability) are supposed/advised to indicate;
- (xi) The post applied for; should be clearly marked on top of the envelope and addressed to:

**Director General,
Tanzania Communications Regulatory Authority,
Mwasiliano Towers,
20 Sam Nujoma Road,
P.O. Box 474,
14414 DAR ES SALAAM
TANZANIA.**

- (xii) Deadline for application is Monday 4th November 2019;
- (xiii) Only short listed candidates will be informed on a date for interview.
- (xiv) treated as criminal offence and legal action shall be taken.