

Handwritten notes: *25/10/2024*



CORPORATE DATA OFFICE

MEMO

TO: Ag. Commissioner – SIRM
FROM: Deputy Commissioner – CDO
DATE: 24th October 2024
REF: KRA/SIRM/CDO/012/91

2024/2025 PFMR WORKPLAN ACTIVITIES

Reference is made to the approval granted for DWBI project Capacity building vide memo KRA/SIRM/CDO/012/68 dated 29 April 2024. (*Copy Attached*)

CDO recently received 14 additional staff to enhance capacity in development of data analytics solutions and data governance. It is necessary that the staff undergo raining to equip them with the necessary skills they for their new roles. Additionally, the DWBI project is set to be concluded by 31st December 2024. As such all pending deliverables and issues need to be resolved.

The PFMR secretariat at the National Treasury have confirmed the availability of Kes. 28.5M obtained from a cashed performance bond (21M) and a SIDA interest funds (8.5).

The division therefore proposes to utilize the funds for capacity building and other initiatives geared at increasing uptake of the DWBI solution, and enhance organizational data maturity in line with the Ninth Corporate Plan.

To this end, CDO proposes to utilize the Kes. 29M as outlined in Table 1 attached.

This is to request for your concurrence and approval for the proposed activities and for inclusion in the FY 2024/25 PFMR work plan.


Joseph Tonui

Tuliye Ushuru Tujitegemee!



**KENYA REVENUE
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INTERNAL

Table 1: 2024/2025 PFMR WORKPLAN ACTIVITIES

	Program	Justification	Proposed Facilitator	Pax	Amount	Allowances	Total (Kes)
1.	Focused workshop	Completion of pending deliverables and issues resolution	ARC	68	2,784,000	9,629,200	12,413,200
2.	Customised BI Solutions Training	Equip KRA staff with the skills to utilize the developed reports and dashboards on the BI platform.	CDO/ KESRA	214	642,000	0	642,000
3.	Certified Data Management Professional (CDMP)	Equip staff with the skills to handle data effectively and implement appropriate data governance.	TBA	10	1,350,000	650,000	2,000,000
4.	Data Science, Business Intelligence and Analytics	Equip staff with skills in advanced analytics and data science.	Strathmore University	20	3,280,000	0	3,280,000
5.	Oracle Data Integrator 1 12c: Administration/ Developer	Equip technical skills in development and maintenance of data integration workflows.	Computer Learning Centre	5	1,687,500	0	1,687,500
6.	Oracle Database 1 19c: Administration	Equip technical skills in database maintenance.	Computer Learning Centre	5	1,687,500	0	1,687,500
7.	Project Management and M&E Certification	To enhance project management and M&E capacity for program staff.	TBA	15	3,000,000	1,000,000	4,000,000
8.	Data Analytics curriculum Review	Review of the KRA data analytics curriculum and workbook development.	KESRA	10	150,000	0	150,000
9.	Tax Workshop	Emerging issues in tax	ICPAK	3	180,000	250,000	430,000
10.	Data Management Maturity Assessment	Assess KRA's data maturity levels and staff sensitization	CDO	10	0	1,400,000	1,400,000
11.	Data Strategy	Review of Corporate data strategy and prioritization of data initiatives	CDO	20	200,000	0	200,000

Tulipe Ushuru Tujitegemee!



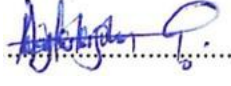

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AUTHORITY

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INTERNAL

	Program	Justification	Proposed Facilitator	Pax	Amount	Allowances	Total (Kes)
12.	Taxpayers Data privacy and Protection Awareness	Develop data privacy content for dissemination to taxpayers with support of the Tax Education Program (M&C)	M&C	10	700,000	900,000	1,600,000
		TOTAL		390	15,661,000	13,829,200	29,490,200

Tulipe Ushuru Tujitegemee!

DOCUMENT:	DATA MANAGEMENT MATURITY ASSESSMENT CONCEPT NOTE
PREPARED BY:	LUCY JOHN, OFFICER, DATA GOVERNANCE
SIGNATURE:	
DATE:	28/11/2024
APPROVED BY:	YVONNE WAFULA, CHIEF MANAGER, CORPORATE DATA OFFICE
SIGNATURE:	
DATE:	28/11/2024

1. **CERTIFIED DATA MANAGEMENT PROFESSIONAL (CDMP) TRAINING**

1.1 Introduction

Effective data management is crucial for organizations in both the public and private sectors, as it forms the foundation for decision-making, strategic planning, and operational efficiency. However, many organizations face challenges such as inconsistent data governance practices, inadequate mastery of advanced data management tools, and limited awareness of regulatory compliance standards.

In response to these challenges, the **Certified Data Management Professional Training (CDMP)** has been organized to provide participants with comprehensive knowledge and skills in key areas of data management. The training will cover critical disciplines such as data governance, data quality management, data modeling, master data management, data warehousing, and business intelligence. Additionally, participants will gain practical insights into cutting-edge tools and technologies, real-world case studies, and strategies to enhance data-driven decision-making and regulatory compliance.

The Kenya Revenue Authority (KRA) will be attending this training, which aims to enhance the organization's ability to effectively manage and utilize data for improved operational performance and decision-making.

1.2 Objectives of the Certified Data Management Professional (CDMP) Training

The Data Management (DAMA) Training aims to equip participants with the knowledge and skills needed to enhance their data management capabilities and improve organizational performance. The primary goals and objectives of the training include:

- i. **Understanding Key Data Management Disciplines:** Participants will gain a solid understanding of essential disciplines, including data governance, data quality management, data modeling, master data management, data warehousing, and business intelligence.
- ii. **Utilizing Cutting-Edge Tools and Technologies:** The training will introduce participants to modern tools and technologies, enabling them to manage data effectively and efficiently.
- iii. **Applying Data Management Principles in Real-World Scenarios:** Through case studies and practical exercises, participants will learn how to apply data management principles to address real-world business challenges.
- iv. **Mastering Data Management Strategies:** Participants will develop the ability to design and execute effective data management strategies that align with organizational objectives.
- v. **Improving Strategic Decision-Making:** The training will enhance participants' ability to use data for strategic decision-making and operational performance improvement.
- vi. **Ensuring Regulatory Compliance:** A key objective of the training is to improve participants' understanding of how to manage data in compliance with both local and international data protection regulations.

1.3 Modules to be Covered

Based on the proposed scope of the training, KNDC will deliver hands-on training covering the following areas:

Module 1: Introduction to Data Management

- **Overview:** Understanding the fundamental principles of data management and its significance in driving business efficiency

- Applications: Discussion on how effective data management impacts various industries.

Module 2: Data Governance

- Overview: Learn the principles and concepts of data governance.
- Roles and Responsibilities: Understand the roles and responsibilities within a data governance framework.

Module 3: Data Architecture & Data Lifecycle Management

- Overview: Introduction to the components and types of data architecture.
- Building and Managing Data Architectures: Learn how to design and manage effective data architectures.

Module 4: Data Quality Management

- Overview: Learn the importance of data quality in data management.
- Dimensions of Data Quality: Explore various dimensions of data quality.

Module 5: Data Operations Management

- Overview: Understand the role and importance of data operations management.
- Database Design and Management: Learn best practices for designing and managing databases.

Module 6: Reference & Master Data Management

- Overview: Understand the key concepts of master data management.
- Reference Data and Its Importance: Explore the differences between reference and master data.

Module 7: Data Warehousing, BI Management, and Big Data Analytics

- Overview: Learn about data warehousing architectures and their role in business intelligence.
- Tools for Data Warehousing and BI Management: Explore various tools and techniques used for data warehousing and BI management.

Module 8: Metadata Management

- Overview: Introduction to metadata and its importance in data management.
- Metadata Management Strategies: Learn strategies for effectively managing metadata.

Module 9: Data Security, Privacy, Regulatory, and Risk Management

- Overview: Understand the principles and practices of data security and privacy.
- Data Security Protocols: Learn about protocols and policies for ensuring data security.

1.4 Participants for CDMP Training

Below are the Data Governance members who will participate in the training:

	Name	Department	P/No	Designation	Per Diem rate	No of days	Per Diem amount
1.	Joseph Tonui	SIRM/CDO	5534	Deputy Commissioner	16,800	5	84,000
2.	Yvonne Wafula	SIRM/CDO	6630	Chief Manager	16,800	5	84,000
3.	Peter Kaburia	SIRM/CDO	6201	Chief Manager	16,800	5	84,000
4.	Robert Ngure	SIRM/CDO	15181	A.Manager	14,000	5	70,000
5.	Millianah Koki	SIRM/CDO	7222	A.Manager	14,000	5	70,000
6.	Mike Malingu	SIRM/CDO	10289	Supervisor	11,200	5	56,000
7.	Samuel Wamukoya	SIRM/CDO	12133	Supervisor	11,200	5	56,000
8.	Gladys Cheruiyot	SIRM/CDO	12409	Supervisor	11,200	5	56,000
9.	Lucy John	SIRM/CDO	11386	Officer	11,200	5	56,000
10.	Grace Luvisia	SIRM/CDO	12219	Officer	11,200	5	56,000
11.	Rahab Ngima	SIRM/CDO	12170	Officer	11,200	5	56,000
12.		CSS/Driver		Support Staff KRA 02	6,300	5	31,500

		TOTAL		759,500/=
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1.5 Execution & Program

The Mastering Data Management (DAMA) Training will take place from **18th – 22nd December 2024** at **Lake Naivasha Resort**. The conferencing cost has been accommodated in the quotation from **Konza Technopolis Development Authority**. The detailed program for the training is outlined in the separately attached file, "**KRA Training Proposal.pdf**".

1.6 Budget

The details of the budget for the Mastering Data Management (DAMA) Training have been outlined in the separately attached file, "**KRA Training Proposal.pdf**".

The estimated budget is as follows:

Item	Unit Cost	No. of days	No. of Pax	Grand Total
Full Per diem				
Deputy Commissioner	1 day @ 16,800	5	1	84,000
Chief Managers	1 day @ 16,800	5	2	168,000
Assistant Managers	1 day @ 14,000	5	2	140,000
Supervisor	1 day @ 11,200	5	3	168,000
Officer	1 day @ 11,200	5	3	168,000
Driver	1 day @ 6,300	5	1	31,500
Total				=759,500/=

2. DATA SCIENCE, BUSINESS INTELLIGENCE AND ANALYTICS TRAINING

2.1. Introduction

In today's complex tax environment, leveraging data effectively is crucial for improving compliance, operational efficiency, and revenue collection. The Corporate Data Office (CDO) within the Strategy Innovation and Risk Management (SIRM) department plays a key role in analyzing vast taxpayer data to meet strategic objectives. However, the increasing complexity of this data necessitates continuous upskilling in advanced analytics, business intelligence, and data science techniques.

To address this, a **10-day** Data Science, Business Intelligence, and Analytics Training Program is proposed to be conducted by **Konza Technopolis Development Authority**. This program aims to enhance the capacity of CDO staff by equipping them with cutting-edge skills in predictive analytics, data science, and business intelligence tools. These advanced skills will empower participants to convert complex data into actionable insights, improve taxpayer profiling, and develop predictive models to identify compliance risks and revenue growth opportunities.

By attending this program, staff will acquire essential knowledge to drive informed decision-making, boost productivity, and foster innovation. The program will also support the organization's goals outlined in the 9th Corporate Plan, enabling CDO staff to harness data as a strategic asset and create a competitive advantage.

2.2. Goal and Objectives of the Training

The goal of this program is to provide participants with advanced skills in data science, business intelligence, and analytics, enabling them to leverage data to drive innovation and productivity across the organization.

Key Objectives:

- 1) Develop Data Science Proficiency: Equip participants with a comprehensive understanding of data science concepts, tools, and techniques to enhance data manipulation, analysis, and interpretation.
- 2) Master Predictive Analytics and Machine Learning: Enable participants to build predictive models and apply machine learning algorithms to solve business challenges.
- 3) Improve Business Intelligence Competence: Enhance the ability to generate real-time insights through business intelligence tools like Power BI and Tableau, driving better decision-making.
- 4) Foster Data-Driven Decision-Making: Empower participants to apply analytical thinking to operational and strategic decisions, increasing efficiency and performance.
- 5) Ensure Ethical and Responsible Data Use: Promote data governance principles, focusing on ethical considerations, privacy, and security.

2.3. Participants

Below are the Corporate Data Office (CDO) Staff who will participate in the proposed training:

No.	Name	Designation	Section/Unit
1.	Margaret Pere	Manager	Business Intelligence
2.	Yvonne Odera	Assistant Manager	Business Intelligence
3.	Shem Maina	Supervisor	Business Intelligence
4.	William Maanzo	Supervisor	Business Intelligence
5.	Alex Ndambuki	Officer	Business Intelligence
6.	Bryan Okello	Supervisor	Business Intelligence
7.	Linda Wairimu	Officer	Business Intelligence
8.	Patrick Ngare	Officer	Business Intelligence
9.	Tracy Apiyo	Officer	Business Intelligence
10.	Claire Wambui	Officer	Business Intelligence
11.	Emily Muhavi	Officer	Business Intelligence
12.	Oscar Odago	Officer	Business Intelligence
13.	Alex Maina	Officer	Business Intelligence

2.4. Execution

The program will be held in **Nairobi** at **Agile Grand Hotel, Nairobi** spanning for **10 days**, from **9th -20th December, 2024** featuring a balanced mix of theoretical learning and hands-on practical sessions. Participants will learn using real-world case studies, and the training will culminate in a capstone project that requires participants to solve a practical business problem using data science tools.

2.5. Budget & Proposed Programme

The details of the budget for the Data Science Training have been outlined in the separately attached file, "**KRA Training Proposal.pdf**".

3. ORACLE TRAINING AND CERTIFICATIONS

3.1 Introduction

To ensure sustainability of the DWBI project post implementation, KRA seeks to enhance capacity of the BI and ETL developers. Capacity building is one of the most important strategies for addressing the skills gap and high turnover rate witnessed in the project implementation team. Additionally, the dynamic nature of the business environment and the exponential growth of data that may be leveraged for revenue mobilization have made a dual approach to the effective utilization of batch and real-time streaming of data vital.

KRA proposes to train the BI and ETL developers on the following two certification courses;

1. Oracle Database 19c: Administration 1
2. Oracle Data Integrator 12c: Administration/Developer (JP) ODI

Successful training and certification in the two courses will enable the participants to:

- i. Understand analytical concepts and use them to process information and make decisions.
- ii. Translate analytics results into sound business insights and strategies.
- iii. Educate the team on effective use of the tools they use on a day today basis.
- iv. Effectively support and optimize the Data Warehouse infrastructure.

3.2 Course Objectives

These two course seeks to enhance comprehensive data integration skills, integration with the oracle ecosystem, improved data quality and consistency in the warehouse.

The trainings will promote an efficient data warehousing and business intelligence capabilities while also enhancing scalability, performance optimization and adaptability to changing business needs.

3.3 Participants

Below are the BI team members who will participate in the training:

a. Oracle Database 19c: Administration

No.	Name	Designation
1.	Evans Mwakaba	Officer
2.	Samuel Kihumba	Officer
3.	Samuel Chege	Supervisor
4.	James Njagi	Officer
5.	Sharon Tulwo	Officer

b. Oracle Data Integrator 12c: Administration/Developer (JP) ODI

No.	Name	Designation
1.	Ronald Odongo	Supervisor
2.	Dianah Boyani	Officer
3.	Patrick Njogu	Officer
4.	Victor Oyula	Officer
5.	Jennifer Mugweru	Officer

3.4 Execution & Programme

We propose to have a **5-day** training for both the **Oracle Data Integrator 12c** and the **Oracle Database 19c: Administration** from **9th December 2024 - 13th December 2024** facilitated by **Konza Technopolis Development Authority** at **Agile Grand Hotel , Nairobi.**

3.5 Budget

The details of the budget for the Data Science Training have been outlined in the separately attached file, "**KRA Training Proposal.pdf**"

CONSOLIDATED BUDGET FOR THE 4 TRAININGS

Training	No. of days	No. of Pax	Training & Certification Cost (A)	Per Diems (B)	Grand Total (A+B)
CDMP Training	5	11	7,748,030	759,500	8,507,530/=
Data Science	10	13		0	
Oracle Database Integrator	5	5		0	
Oracle Database Administrator	5	5		0	
PFMR BUDGET FOR ALL KRA TRAININGS					8,655,080/=
TOTAL BUDGET FOR THE TRAININGS IS 8,507,530/=					

DATA MANAGEMENT TRAINING PROPOSAL FOR



PREPARED BY



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Table of Contents

1. EXECUTIVE SUMMARY	4
1.1 Konza National Data Center Training Services	5
1.1.1 Business Intelligence Data Analytics & Data Science.....	6
1.1.2 Data Skills Training.....	6
1.1.3 Staff Augmentation.....	6
1.1.4 Digital Transformation Advisory	7
1.1.5 Fintech Innovations	7
1.1.6 Software Development	7
1.2 KNDC PARTNERS, IN PARTNERSHIP WITH PATHWAYS TECHNOLOGIES	8
1.2.1 Microsoft Data and AI Solutions Partner (Technology Partner).....	8
1.2.2 Tableau Consulting Partner (Technology Partner)	10
1.2.3 Automation Anywhere Implementation Partner	11
1.2.4 AWS Services and Training Partner - (Technology Partner)	12
2 PROPOSED TRAINING SOLUTIONS	13
2.1 Certified Data Management Professional (CDMP)	13
2.2 Course Objectives:	13
2.3 Modules to be covered	13
2.4 Training Materials/Support	15
3 Oracle Data Integrator	16
4 Oracle 19c Database administration.....	19
5 Data Science Training	23
• Day 1: Getting Started with Data Science and Python	24
• Day 2: Python Basics Made Easy	24
• Day 3: Working with Data in Python	25
• Day 4: Introduction to Machine Learning	25



• Day 5: Bringing It All Together	25
• Day 6: Advanced Data Manipulation and Cleaning	26
• Day 7: Data Visualization Techniques	26
• Day 8: Introduction to Advanced Machine Learning	27
• Day 9: Big Data and Cloud Integration	27
• Day 10: Advanced Capstone Project and Career Insights	28
6 FINANCIAL PROPOSAL	29
7 DATA SCIENCE 3 – MONTHS COMPREHENSIVE TRAINING	Error! Bookmark not defined.
Course Objectives	Error! Bookmark not defined.
Modules to be covered	Error! Bookmark not defined.
8 Learning Management System (LMS)	Error! Bookmark not defined.
Rationale for the LMS	Error! Bookmark not defined.
Proposed LMS Solution	Error! Bookmark not defined.
LMS Features and Functionalities	Error! Bookmark not defined.
Dynamic and Interactive Content	Error! Bookmark not defined.
Behavioral Learning Approach	Error! Bookmark not defined.
Blended Learning Model	Error! Bookmark not defined.
Integration with KRA's Ecosystem	Error! Bookmark not defined.
Implementation Plan	Error! Bookmark not defined.
Expected Outcomes	Error! Bookmark not defined.
FINANCIAL PROPOSAL FOR COMPREHENSIVE DATA SCIENCE TRAINING AND LMS.	Error! Bookmark not defined.



1. EXECUTIVE SUMMARY

The Government of Kenya established Konza Technopolis Development Authority (KoTDA) as a special purpose vehicle to oversee the implementation of Konza Technopolis into world class smart city standards. The Technopolis is a key flagship project of Kenya's Vision 2030 meant to position Kenya as a regional technology hub and a major economic driver for the nation. As part of the Phase 1 anchor projects, the Authority has implemented a National Data Center. The Konza National Data Centre is a highly secure and reliable Tier III Design and Construction facility, located in a smart and sustainable city with assured multiple internet connectivity and reliable power supply.

The Data Center is currently providing cloud services to various entities in both the Public and Private sector, and we offer the most competitive prices in the market.

Digital transformation is reshaping the landscape of business, ushering in a new era of personalized, accessible, and efficient operation. By integrating technology into every facet of the business process, businesses can enhance, or transform business models, culture, operations, and customer experiences for the digital age.

Konza National Data Center (KNDC) serves as a strategic enabler, offering products and services across key segments such as business intelligence, data analytics, data analytics training, digital transformation, software and application development, and fintech innovations. Our mission is to empower organizations and individuals by providing innovative solutions that unlock the potential of technology and data, driving transformative growth and success.

To help organizations and individuals unlock their full potential, Konza National Data Center (KNDC) has established strategic partnerships with leading global technology providers. As a Microsoft Data partner, Huawei AI Solutions Partner, Tableau Consulting Partner, and Google Partner, we leverage cutting-edge tools and resources to deliver exceptional solutions. Complementing these partnerships is **Konza Cloud**, our

robust cloud infrastructure, which provides secure, scalable, and reliable solutions tailored to meet diverse business needs. Together, these capabilities highlight our commitment to driving innovation and empowering our clients to achieve transformative growth.

With a wealth of experience, our team of professionals has a proven track record of successfully delivering similar projects for clients across the county. Our expertise extends beyond technical implementation to include business consultancy, user adoption support, and the establishment of best practices for technology-driven innovation. We have successfully executed enterprise solutions such as big data analytics and data warehousing projects across various industries, business sectors, Public and private sectors. This positions us to consistently deliver exceptional value to our clients.

At Konza, we are committed to empowering the continent with modern, high-tech skills through strategic academic partnerships. As a key driver of the Jitume Program, we collaborate with institutions such as JKUAT, Open University of Kenya, Machakos University, KAIST, and others to deliver impactful training initiatives. Through the Jitume Program, Konza has successfully trained over 300,000 youths, equipping them with cutting-edge digital skills and enabling them to secure opportunities in various industries worldwide.

1.1 Konza National Data Center Training Services

In partnership with Pathways Technologies Limited, Konza National Data Center (KNDC) offers a range of training services designed to meet the diverse needs of organizations and individuals. Through this collaboration, we provide tailored programs that empower participants with cutting-edge digital skills, fostering innovation and driving transformative growth across industries.



1.1.1 Business Intelligence Data Analytics & Data Science

We offer cutting-edge Business Intelligence (BI) and Data Analytics products and services to help organizations gain data-driven insights and make informed strategic decisions. We provide a comprehensive suite of solutions that allow businesses to leverage the power of data, converting it into actionable intelligence that can drive growth, efficiency, and profitability. Our specific services under this offering include data integration, data warehousing, big data analytics, data science, machine learning, and artificial intelligence (ML& AI).

1.1.2 Data Skills Training

We provide data training services to help businesses enhance their employees' skills. We aim to empower organizations with the knowledge and expertise needed to excel in the rapidly evolving data fields. Our training services are led by experts who equip professionals with the latest tools, techniques, and best practices, enabling them to make data-driven decisions and drive organizational growth. We offer a range of courses tailored to technical teams, executives in board and C-level positions, middle-level managers, and those transitioning their careers.

1.1.3 Staff Augmentation

We specialize in providing companies with highly skilled and experienced domain experts in

Data Science, Big Data, Analytics, and Machine Learning to help them achieve their agile goals. We aim to help organizations scale and enhance their data-driven capabilities by offering topnotch workforce and expert staffing services.

Our expert talent pool includes professionals who can seamlessly integrate into your team, deliver immediate value, and contribute to your organization's success. Whether you need a Data Scientist, Data Analyst, Cloud specialist, Data engineer, AI engineer, business analyst, or data project manager, Konza can help you fill in any of these roles.

1.1.4 Digital Transformation Advisory

Konza National Data Center offers end-to-end digital transformation advisory services catering to enterprises and small businesses. Our mission is to help organizations navigate the complex digital landscape and achieve growth and success in the digital era. We collaborate with clients on various projects, from strategy alignment and technology landscape to data-driven innovations and culture. Our advisory services include strategy alignment, technology landscape, business data protection and privacy advisory, and data-driven innovation. We offer strategic guidance, innovative solutions, and expert support to help our clients achieve their goals and thrive in the digital economy.

1.1.5 Fintech Innovations

We collaborate with financial institutions to offer advanced digital banking services to their customers using mobile and online technologies. We aim to design custom, state-of-the-art digital banking solutions that smoothly integrate with their current infrastructure, providing instant customer benefits and enhancing their overall business performance.

1.1.6 Software Development

Our software development services offer tailored solutions for mobile, desktop, and web applications that enable businesses to be agile as they grow, leading to tremendous success.



Konza Technopolis Development Authority



1.2 KNDC PARTNERS, IN PARTNERSHIP WITH PATHWAYS TECHNOLOGIES

1.2.1 Microsoft Data and AI Solutions Partner (Technology Partner)

As a Microsoft Data and AI solutions Partner in Africa, KNDC together with Pathways Technologies is pivotal in driving technological innovation and fostering data-driven transformation across the continent. This partnership signifies a strategic alignment between KNDC and Microsoft, leveraging Microsoft's cutting-edge technologies and



KNDC's expertise in data technology and innovation.

Together, we collaborate to empower organizations in Africa to harness the power of data and AI, unlocking new opportunities for growth, efficiency, and competitiveness. KNDC in collaboration with Pathways Technologies works closely with Microsoft to deliver comprehensive Data & AI solutions tailored

to African businesses and industries' unique needs and challenges. Leveraging Microsoft's robust suite of tools and platforms, combined with KNDC in collaboration with Pathways' deep domain knowledge and

local insights, the partnership enables the deployment of scalable, sustainable, and impactful solutions. From conceptualization, data management, and analytics to machine learning and AI-driven insights, KNDC in collaboration with Pathways empowers organizations across Africa to unlock the full potential of their data, driving innovation and fueling economic growth.



1.2.2 Tableau Consulting Partner (Technology Partner)

DocuSign Envelope ID: CDB0C72-2D8D-45F7-A7C2-8C934A8392ED



Reseller Program Status Letter

Reseller Entity Name	Pathways International Consulting LLC
Reseller Entity Address	3rd floor Block C, Saatchi Plaza Argwings Kodhek Nairobi, 100 KE
Program Name	Tableau Reseller in connection with resale of Tableau Products
Region(s) (If applicable)	
End Customer(s) (If applicable)	
Letter Date	02/08/2022

To the entity listed above:

As of the Letter Date set forth above, you have entered into a reseller agreement with Salesforce, Inc. or an affiliate thereof ("SFDC") permitting you to join the Program Identified above and to resell certain eligible Salesforce services to the End Customer(s) Identified above, as applicable.

You are permitted to share copies of this letter with End Customer(s) Inquiring as to your status in connection with the Program Identified above, provided that SFDC makes no warranties or guarantees regarding you, your expertise, or your services, and provided further that SFDC waives any and all liability in connection with this letter.

Sincerely,

Declassified by:

Joslyn Lacy
Salesforce, Inc.

Joslyn Lacy Manager, Order Management

415 Mission Street
San Francisco,
California 94105
Salesforce, Inc.
f /salesforce
t @salesforce

As a Tableau consulting, and implementation Partner in Africa, KNDC in collaboration with Pathways Technologies is at the forefront of empowering organizations across the continent with cutting-edge data analytics and storytelling solutions. This partnership signifies a strategic collaboration with Tableau, combining Tableau's industry-leading analytics platform with our expertise in data technology and innovation. Together, they work hand in hand to democratize data analytics, enabling businesses in Africa to derive actionable insights and make informed decisions through compelling visual storytelling.

KNDC in partnership with Pathways Technologies collaborates closely with Tableau to deliver tailored data analytics and storytelling solutions that address African organizations' specific needs and challenges. Leveraging Tableau's intuitive and powerful analytics tools and our deep understanding of local market dynamics, the partnership facilitates the deployment of scalable and impactful data analytics initiatives.

From data visualization and exploration to dashboard design and interactive reporting, KNDC empowers organizations across Africa to unlock the true potential of their data driving innovation, efficiency, and growth. Through this partnership, we are committed to driving a data-driven culture and fostering digital transformation across Africa.

1.2.3 Automation Anywhere Implementation Partner

As an Automation Anywhere implementation services Partner for RPA in East Africa, KNDC in collaboration with Pathways Technologies is dedicated to driving efficiency and innovation through robotic process automation (RPA). This partnership signifies a strategic collaboration between KNDC and Automation Anywhere, leveraging Automation Anywhere's cutting-edge RPA platform and KNDC's expertise in data technology and innovation. Together, we work hand in hand to empower organizations in East Africa to streamline business processes, increase productivity,

and achieve digital transformation by implementing RPA solutions. KNDC, in partnership with Pathways Technologies, collaborates closely with Automation Anywhere to deliver tailored RPA solutions that address the specific needs and challenges of organizations in East Africa. By leveraging Automation Anywhere's scalable and intuitive RPA platform and our deep understanding of local market dynamics, the partnership enables organizations to automate repetitive tasks, enhance operational efficiency, and drive innovation across various industries. Through this partnership, KNDC in collaboration with Pathways Technologies and Automation Anywhere are committed to revolutionizing business operations and accelerating digital transformation in East Africa.



1.2.4 AWS Services and Training Partner - (Technology Partner)

As an AWS services and training Partner for data analytics in Africa, KNDC in collaboration with Pathways Technologies are pivotal in driving technological advancement and fostering innovation across the continent. This partnership represents a strategic



alliance between KNDC in collaboration with Pathways and AWS, combining AWS's robust cloud infrastructure and data analytics services with KNDC's expertise in data technology and innovation.

Together, they collaborate to empower organizations in Africa to harness the power of big data, enabling them to derive actionable insights and drive innovation on a scale. KNDC, in collaboration with Path-

ways Technologies works closely with AWS to deliver comprehensive big data implementations and drive innovation on the continent. Leveraging AWS's scalable and secure cloud platform, combined with our deep domain knowledge and local insights, the partnership enables the deployment of cutting-edge big data solutions tailored to African businesses and industries' unique needs and challenges. From data ingestion and storage to processing, analysis, and visualization, KNDC in collaboration with Pathways empowers organizations across Africa to unlock the full potential of their data, driving transformative change and fueling economic growth. Through this partnership, KNDC Technologies and AWS are committed to driving digital transformation and advancing data-driven innovation across Africa.



2 PROPOSED TRAINING SOLUTIONS

2.1 Certified Data Management Professional (CDMP)

This intensive five-day training course is designed to equip participants with foundational skills in data management. Structured modules cover essential principles and best practices, with key topics including data governance, data quality assurance, and strategic data utilization for decision-making..

The curriculum emphasizes hands-on learning through practical exercises and real-world case studies, enabling participants to apply their knowledge effectively. By the end of the course, attendees will gain valuable insights and practical experience that prepare them to lead data-driven initiatives, enhance operational efficiency, ensure regulatory compliance, and drive value within their organizations.

2.2 Course Objectives:

Participants will:

- Understand the principles and importance of data management.
- Implement data governance frameworks and ensure data quality.
- Develop and manage data architecture and lifecycle.
- Integrate data management practices with various business applications.
- Ensure data security, privacy, and regulatory compliance.

2.3 Modules to be covered

Based on the proposed scope of the training, KNDC will deliver hands-on training covering the following areas:

Module 1: Introduction to Data Management

- **Overview:** Understanding the fundamental principles of data management and its significance in driving business efficiency.



- **Applications:** Discussion on how effective data management impacts various industries.
- **Hands-on Activity:** Analyzing case studies to identify best practices in data management.

Module 2: Data Governance

- **Overview:** Learn the principles and concepts of data governance.
- **Roles and Responsibilities:** Understand the roles and responsibilities within a data governance framework.
- **Hands-on Activity:** Implementing data governance strategies in a simulated environment.

Module 3: Data Architecture & Data Lifecycle Management

- **Overview:** Introduction to the components and types of data architecture.
- **Building and Managing Data Architectures:** Learn how to design and manage effective data architectures.
- **Hands-on Activity:** Create a data lifecycle management plan for a sample organization.

Module 4: Data Quality Management

- **Overview:** Learn the importance of data quality in data management.
- **Dimensions of Data Quality:** Explore various dimensions of data quality.
- **Hands-on Activity:** Develop policies and procedures for continuous data quality improvement.

Module 5: Data Operations Management

- **Overview:** Understand the role and importance of data operations management.
- **Database Design and Management:** Learn best practices for designing and managing databases.
- **Hands-on Activity:** Design a simple database structure based on business requirements.

Module 6: Reference & Master Data Management

- **Overview:** Understand the key concepts of master data management.



- **Reference Data and Its Importance:** Explore the differences between reference and master data.
- **Hands-on Activity:** Create a master data management strategy for a hypothetical business scenario.

Module 7: Data Warehousing, BI Management, and Big Data Analytics

- **Overview:** Learn about data warehousing architectures and their role in business intelligence.
- **Tools for Data Warehousing and BI Management:** Explore various tools and techniques used for data warehousing and BI management.
- **Hands-on Activity:** Build a basic data warehouse model using sample data.

Module 8: Metadata Management

- **Overview:** Introduction to metadata and its importance in data management.
- **Metadata Management Strategies:** Learn strategies for effectively managing metadata.
- **Hands-on Activity:** Develop a metadata management plan for a specific dataset.

Module 9: Data Security, Privacy, Regulatory, and Risk Management

- **Overview:** Understand the principles and practices of data security and privacy.
- **Data Security Protocols:** Learn about protocols and policies for ensuring data security.
- **Hands-on Activity:** Assess a hypothetical organization's data security measures and suggest improvements.

2.4 Training Materials/Support

Participants will require:

- **Computer with Internet Access:** To access online resources and training platforms.
- **Training Materials:** Access to slides, recorded sessions, and supplementary materials for continued learning.



- **Access to Data Management Tools:** Practical experience using data management tools throughout the training.
- **Certification Preparation:** The course prepares participants for relevant data management certifications, providing them with the skills needed to excel in their roles.

This course equips participants with a deep understanding of data management principles, providing them with the knowledge and skills necessary to effectively drive data management initiatives within their organizations.

3 Oracle Data Integrator

This intensive three-day training course is designed to equip participants with advanced skills in Oracle Data Integrator (ODI). Structured into targeted modules, the course covers advanced ODI architecture, integration techniques, optimization strategies, and the use of ODI in big data and cloud environments. The curriculum emphasizes hands-on learning through practical exercises, real-world case studies, and a capstone project, enabling participants to apply their knowledge effectively.

By the end of the course, attendees will have gained valuable expertise in implementing complex integration solutions, optimizing ETL processes, enhancing security, and automating processes, empowering them to lead advanced ODI initiatives within their organizations.

Course Objectives:

Participants will:

- Gain a deep understanding of advanced ODI architecture and components.
- Implement best practices for designing and managing complex topologies.
- Develop custom Knowledge Modules and optimize ETL processes for performance.
- Utilize advanced scripting, security, and automation techniques in ODI.



- Integrate ODI with big data technologies and cloud platforms.
- Apply troubleshooting techniques and real-world solutions to complex integration challenges.

Modules to be covered

Based on the proposed scope of the training, we will deliver hands-on training covering the following areas:

Day 1: Foundations of Advanced ODI

Module 1: Introduction to Advanced ODI Concepts

- **Overview:** Advanced ODI architecture and its components.
- **Best Practices:** Integration scenarios and optimization strategies.
- **Hands-on Activity:** Analyze case studies for advanced integration best practices.

Module 2: Advanced Topology and Data Models

- **Overview:** Managing complex topologies with multiple servers and schemas.
- **Data Models:** Advanced configurations and reverse engineering techniques.
- **Hands-on Activity:** Optimize topology for a simulated large-scale project.

Module 3: Advanced ODI Projects

- **Components:** Designing reusable templates, variables, and user functions.
- **Best Practices:** Advanced mappings and interface design.
- **Hands-on Activity:** Implement version control and manage scenarios for a project.

Day 2: Deep Dive into Integration and Optimization

Module 4: Advanced Knowledge Modules

- **Overview:** Customizing and writing Knowledge Modules (KM).
- **Optimization:** Techniques for maintaining and enhancing custom KMs.
- **Hands-on Activity:** Create and test a custom KM for a complex use case.

Module 5: Advanced Data Integration Techniques

- **Techniques:** Parallel processing, partitioning, and change data capture (CDC).
- **Integration:** Real-time data integration with heterogeneous data sources.

- Hands-on Activity: Implement a real-time integration pipeline using CDC.

Module 6: Performance Tuning and Optimization

- Diagnostics: Troubleshooting performance issues.
- Optimization: Tuning sessions and mappings for high-performance ETL.
- Hands-on Activity: Optimize an existing integration for large-scale data processing.

Day 3: Security, Automation, and Advanced Use Cases

Module 7: Advanced Security and Administration

- Security: Configuring roles, privileges, and repository security.
- Administration: Logging, auditing, and backup strategies.
- Hands-on Activity: Design a secure ODI architecture with a recovery plan.

Module 8: Scripting and Automation in ODI

- Overview: Using Groovy and Jython for custom scripting.
- Automation: Process automation using the ODI SDK and advanced scenario orchestration.
- Hands-on Activity: Develop a custom script to automate a complex integration task.

Module 9: Working with Big Data and Cloud Integrations

- Big Data: Configuring ODI for Hadoop, Hive, and Spark.
- Cloud: Integration with Oracle Cloud and hybrid cloud environments.
- Hands-on Activity: Build a hybrid integration pipeline for big data processing.

Module 10: Troubleshooting, Case Studies, and Capstone Project

- Troubleshooting: Advanced error handling techniques.
- Case Studies: Real-world scenarios and their solutions.
- Capstone Project: Design and implement a complex ODI integration solution for a hypothetical organization.



Training Materials/Support

Participants will require:

- **Computers with Internet Access:** To access training platforms and tools.
- **Training Materials:** Including slides, session recordings, and supplementary resources.
- **ODI Environment:** Hands-on experience using Oracle Data Integrator.
- **Certification Preparation:** Guidance on advanced ODI certifications.

4 Oracle 19c Database administration

This comprehensive five-day training course is designed to equip participants with advanced knowledge and skills in managing Oracle Database 19c. The course features structured modules that delve into key aspects of Oracle Database 19c, from installation and configuration to advanced database management, high availability, and integration with Oracle Cloud Infrastructure.

With a strong emphasis on practical exercises, hands-on learning, and real-world case studies, participants will gain valuable insights into Oracle Database's capabilities and applications. By the end of the course, attendees will be prepared to design, implement, and manage secure, high-performance Oracle 19c database environments that meet your organizational needs.

Course Objectives

Participants will:

- Understand Oracle Database 19c architecture, features, and enhancements.
- Master database installation, configuration, and multitenant architecture.
- Implement efficient backup, recovery, and performance tuning strategies.
- Leverage high-availability features such as Data Guard and RAC.
- Integrate Oracle 19c databases with Oracle Cloud and automate database tasks.



Modules to be covered

Based on the proposed scope of the training, KNDC will deliver hands-on training covering the following areas:

Day 1: Introduction and Core Concepts

Module 1: Overview of Oracle Database 19c

- Overview of key features and enhancements in Oracle 19c.
- Deep dive into Oracle Database architecture.
- Components of an Oracle database instance.

Module 2: Installation and Configuration

- Installing Oracle 19c on different platforms.
- Configuring Oracle 19c for optimal performance.
- Understanding database creation methods (DBCA and manual).

Module 3: Multitenant Architecture

- Introduction to container and pluggable database architecture (CDB and PDB).
- Configuring and managing multitenant databases.
- Migrating non-CDB to CDB environments.

Day 2: Database Administration Essentials

Module 4: Storage Management

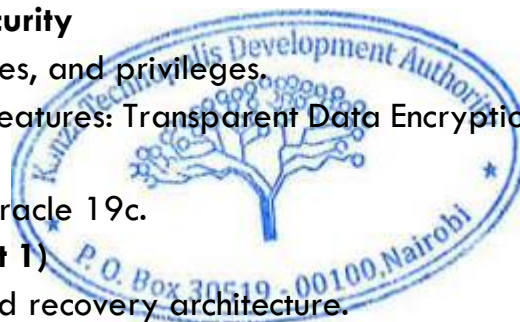
- Managing tablespaces and datafiles.
- Configuring Automatic Storage Management (ASM).
- Using Oracle Managed Files (OMF).

Module 5: User Management and Security

- Creating and managing users, roles, and privileges.
- Implementing advanced security features: Transparent Data Encryption (TDE) and Data Redaction.
- Configuring Unified Auditing in Oracle 19c.

Module 6: Backup and Recovery (Part 1)

- Understanding Oracle backup and recovery architecture.
- Configuring and using Recovery Manager (RMAN).
- Performing full and incremental backups.



Day 3: Advanced Database Management

Module 7: Performance Tuning and Optimization

- Diagnosing and resolving performance issues using AWR, ADDM, and ASH.
- Utilizing SQL Performance Analyzer and SQL Tuning Advisor.
- Optimizing instance and database parameters.

Module 8: Backup and Recovery (Part 2)

- Handling advanced recovery scenarios using RMAN.
- Implementing point-in-time recovery and tablespace recovery.
- Configuring and using Flashback technologies (Query, Database).

Module 9: Data Movement

- Using Data Pump for import/export operations.
- Managing transportable tablespaces.
- Configuring and managing external tables.

Day 4: High Availability and Advanced Features

Module 10: Oracle Data Guard

- Configuring and managing physical and logical standby databases.
- Role transitions: Switchover and failover.
- Implementing Active Data Guard.

Module 11: Oracle RAC Overview

- Fundamentals of Oracle Real Application Clusters (RAC).
- Setting up RAC for high availability.
- Administering RAC environments.

Module 12: Partitioning and Advanced Data Management

- Implementing partitioning for large datasets.
- Using Hybrid Partitioned Tables.
- Exploring the In-Memory Column Store feature.

Day 5: Cloud and Automation

Module 13: Oracle Cloud Integration

- Introduction to Oracle Cloud Infrastructure (OCI).



- Migrating Oracle 19c databases to OCI.
- Configuring hybrid cloud environments.

Module 14: Automation and Scripting

- Using Oracle Scheduler for job automation.
- Introduction to Oracle REST Data Services (ORDS).
- Managing databases with SQL*Plus and command-line tools.

Module 15: Troubleshooting and Advanced Use Cases

- Resolving common database issues.
- Interpreting alert logs and trace files.
- Real-world case studies and solutions.

Capstone Project

- Design and implement a secure, high-performance Oracle 19c database environment.
- Incorporate multitenant architecture, backup/recovery strategies, and performance tuning techniques.

Training Materials/Support

Participants will receive:

Training Materials: Access to slides, recorded sessions, and supplementary resources.

Hands-On Tools: Oracle 19c database environments for practical exercises.

Post-Training Support: Guidance for certification preparation and continued learning.

This course empowers participants with the expertise needed to excel in managing Oracle Database 19c environments, positioning them as key contributors to their organizations' data infrastructure strategies.

This course equips participants with advanced ODI knowledge and practical skills, enabling them to lead integration projects with confidence and deliver innovative solutions for complex data challenges.



5 Data Science Training

This 5-day comprehensive Data Science Training is designed to equip participants with the skills and knowledge required to excel in the field of data science. Covering fundamental concepts to advanced techniques, the program introduces participants to Python programming, data analysis, machine learning, natural language processing, and deep learning. Participants will also explore cutting-edge topics like generative AI and practical applications of data science tools.

The course emphasizes hands-on learning through real-world case studies, practical exercises, and a capstone project, enabling learners to apply their skills in solving complex problems. This program is ideal for aspiring data scientists, analysts, and professionals looking to transition into data-driven roles.

2.4.1 Course Objectives

By the end of this training, participants will be able to

- Understand key concepts and principles of data science.
- Develop proficiency in Python programming for data analysis and problem-solving.
- Use Python libraries like NumPy and Pandas for data exploration and manipulation.
- Create effective data visualizations using Matplotlib to communicate insights.
- Access and prepare data from public and private sources for analysis.
- Apply machine learning techniques, including supervised and unsupervised learning.
- Implement Natural Language Processing (NLP) techniques for text data analysis.
- Understand and use deep learning frameworks like TensorFlow for solving complex problems.
- Explore and apply foundational concepts of generative AI and large language models (LLMs).



- Complete a capstone project by integrating skills learned to solve a real-world problem.
- Present data-driven insights and actionable recommendations from analysis and projects.

Modules to be covered

- **Day 1: Getting Started with Data Science and Python**

What is Data Science?

- Understanding the basics of data.
- What is Data Science, and why is it important?
- What does a Data Scientist do?

Introduction to Tools for Data Science

- Overview of popular tools and software used in Data Science.

Getting Started with Python

- What is Python, and why is it used for Data Science?
- Installing Python and setting up your work environment.
- Writing your first Python program.

- **Day 2: Python Basics Made Easy**

Learning Python Step-by-Step

- Understanding data types (numbers, text, lists).
- How to store information using variables.
- Making decisions in your code (if-else statements).

Making Your Code Do More



- Loops: How to repeat tasks in Python.
- Writing simple functions to organize your work.

• **Day 3: Working with Data in Python**

Getting Comfortable with Data

- Importing data into Python.
- Using NumPy to handle numbers and calculations.

Exploring Data with Pandas

- Reading data from files like Excel and CSV.
- Looking at rows, columns, and basic patterns in your data.

Visualizing Data with Simple Charts

- Making your data come alive with easy-to-create graphs using Matplotlib.

• **Day 4: Introduction to Machine Learning**

What is Machine Learning?

- Understanding how computers can learn from data.
- Difference between supervised and unsupervised learning.

Simple Machine Learning Concepts

- What is model training?
- Easy examples to help you understand how models work.

• **Day 5: Bringing It All Together**

Capstone Project: A Simple Real-World Data Problem



- Choose a small dataset.
- Apply what you've learned so far to explore and analyze the data.
- Create a simple visualization or prediction.

Showcasing Your Work

- Sharing your insights with the group.
- Feedback and next steps to keep learning.

• **Day 6: Advanced Data Manipulation and Cleaning**

Deep Dive into Pandas

- Advanced data wrangling techniques (filtering, sorting, merging, and re-shaping data).
- Handling missing and inconsistent data.
- Grouping and aggregating data for analysis.

Data Cleaning Strategies

- Identifying and fixing data quality issues.
- Working with dates, times, and categorical data.
- Using regular expressions for text data cleaning.

Hands-on Exercises

- Clean and prepare a messy dataset for analysis.

• **Day 7: Data Visualization Techniques**

Beyond Basics with Matplotlib and Seaborn

- Customizing charts (legends, colors, labels).
- Advanced charts: heatmaps, pair plots, and joint plots.



- Comparing multiple datasets visually.

Introduction to Plotly for Interactive Dashboards

- Creating interactive visualizations.
- Building a simple dashboard.

Hands-on Exercises

- Visualize trends and comparisons in a provided dataset.

• **Day 8: Introduction to Advanced Machine Learning**

Intermediate Machine Learning Algorithms

- Decision Trees and Random Forests.
- K-Means Clustering for unsupervised learning.

Performance Evaluation

- Understanding model accuracy and metrics.
- Cross-validation and avoiding overfitting.

Hands-on Exercises

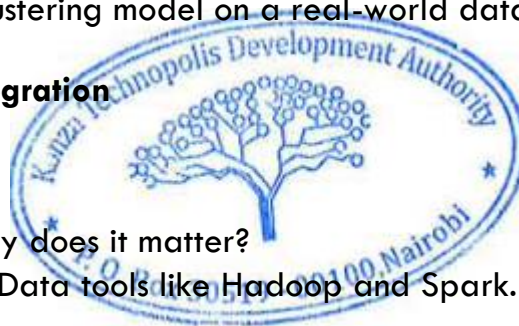
- Build a classification or clustering model on a real-world dataset.

• **Day 9: Big Data and Cloud Integration**

Introduction to Big Data Concepts

- What is Big Data, and why does it matter?
- Overview of popular Big Data tools like Hadoop and Spark.

Introduction to Cloud Platforms



- Overview of cloud services for Data Science (AWS, Azure, Google Cloud).
- Running Jupyter Notebooks in the cloud.

Hands-on Exercises

- Access and process a dataset from the cloud.

• Day 10: Advanced Capstone Project and Career Insights

Capstone Project

- Choose a more complex dataset with real-world relevance.
- Perform in-depth analysis, create visualizations, and build a predictive model.
- Document your process and results.

Career Guidance and Next Steps

- Tips for building a portfolio.
- Introduction to Data Science certifications.
- Overview of career opportunities and skill-building pathways.

Showcase and Feedback

- Present projects to the group for review and discussion.



6 FINANCIAL PROPOSAL

Below is a quote with our financial estimations for the respective trainings as requested by Kenya Revenue Authority (KRA).

COURSE	DURATION	PAX	FEE	TOTAL
DAMA Training	5 days	10	80,600.00	806,000.00
CDMP Associate Certification Preparation and Fee	5 days	10	70,894.20	708,942.00
Oracle Data Integrator	5 days	5	91,000.00	455,000.00
Oracle Data Integrator Preparation and Exam Fee	5 days	5	65,520.00	327,600.00
Oracle 19c Database administration	5 days	5	91,000.00	455,000.00
Oracle 19c Database administration Preparation and Exam Fee	3 days	5	65,520.00	327,600.00
Data Science	10 days	13	156,000.00	2,028,000.00
Azure Data Science Certification	10 days	13	16,900.00	219,700.00
Conference fee				1,200,000.00
Sub Total				6,679,336.20
16% VAT				1,068,693.79
TOTAL AMOUNT				7,748,029.99

Note:

- i. *The training fee does not cover transport and accommodation. Trainee facilitation is client's responsibility.*

We are confident that our training solutions and collaborative approach to training will deliver tangible value to your business. Konza National Data Center is ready to engage as soon as possible to build your teams' capacity and begin contributing to the delivery of the business objectives.