



# Implementing Enterprise AI Platform

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## About RTA

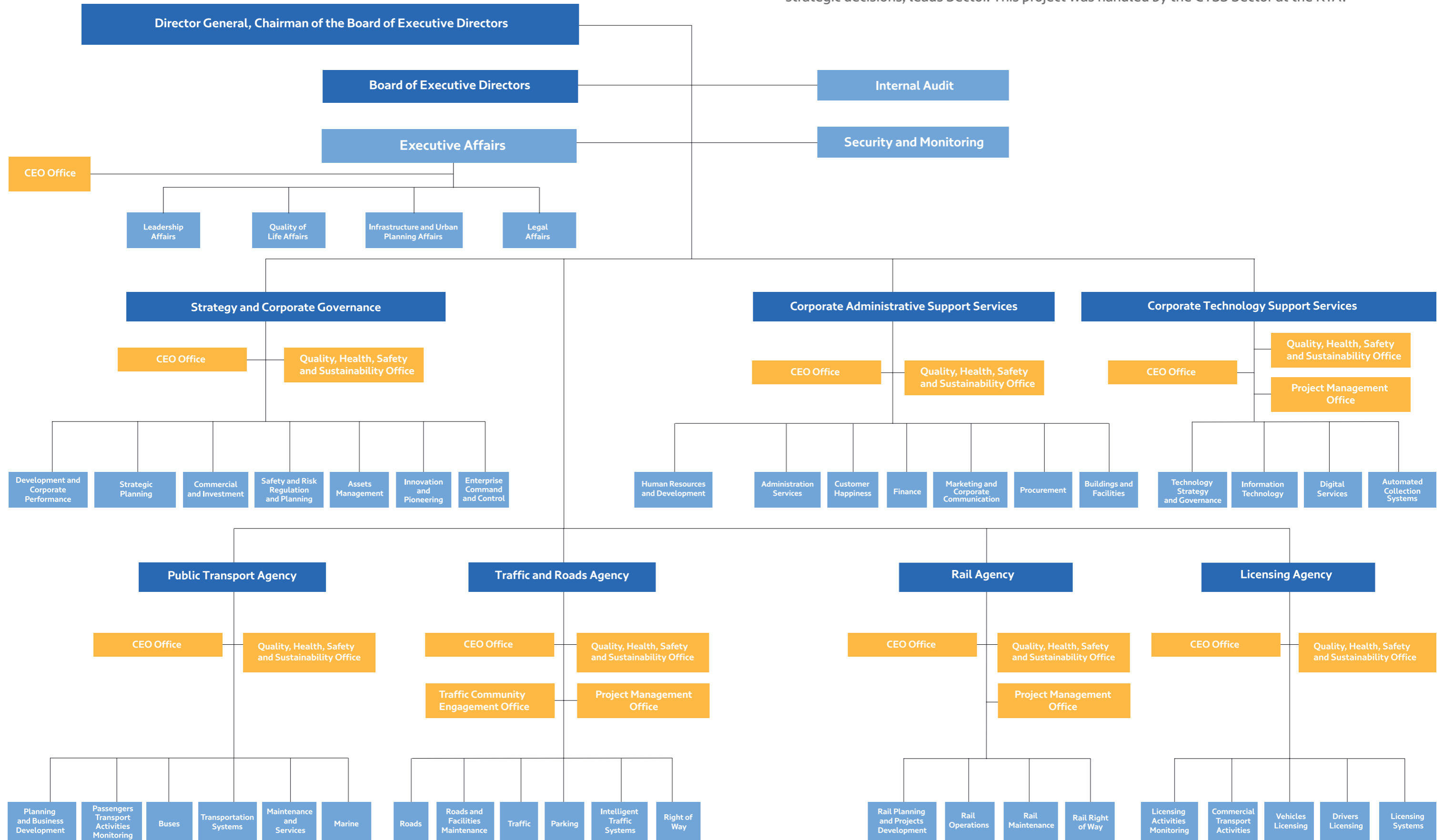
RTA is the primary government organization in charge of developing and maintaining Dubai's transportation infrastructure.

RTA plays a huge role in ensuring that Dubai's transportation systems are efficient, sustainable, and aligned with the city's rapid urban growth and vision for the future.

RTA's vision, "The World's Leader in Seamless and Sustainable Mobility," reflects its commitment to innovation and providing world-class services.

# RTA Organizational Structure

RTA's organizational structure (Figure 1) shows that RTA adapts the "Agency Model" which aims at providing flexibility in running work and separating regulatory issues from operational issues. Each Agency / a CEO, who is a member of RTA's Executive Board that governs the organization and takes strategic decisions, leads Sector. This project was handled by the CTSS Sector at the RTA.



# Implementing Enterprise AI Platform

Start Date June 2021      End Date Jan 2024      Project Cost 5,494,000 AED

People Happiness    Operational Efficiency    Asset Sustainability    Service Delivery    Information Centricity    Innovation Pioneering

**Strategies**  
Digital Strategy

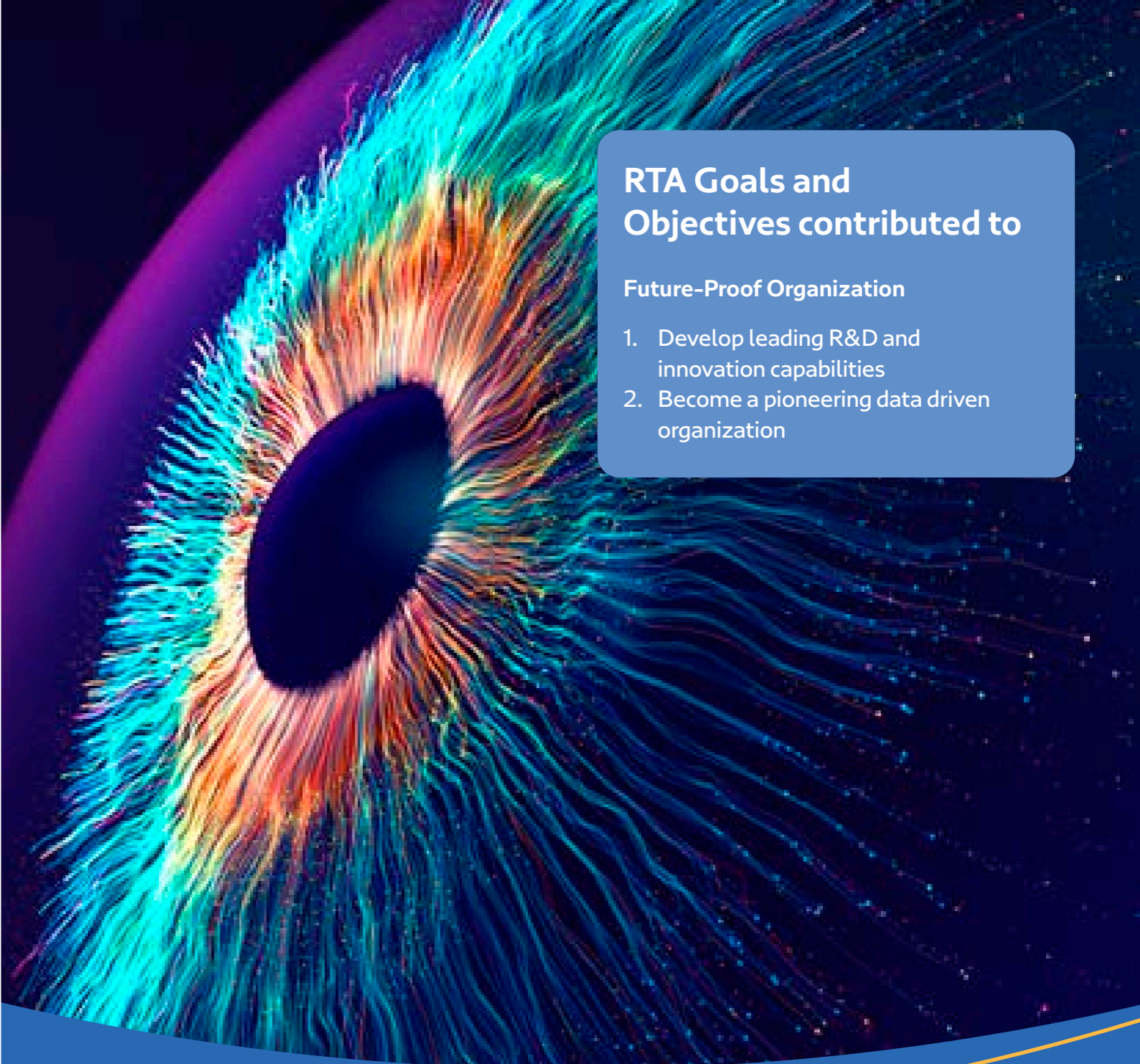
**Business Value**  
 ROV  
 ROI

## Baseline State/Planned Target

- RTA built the Enterprise AI platform on top of big data to act as machine learning CoE and empower RTA data scientist with required tools, beside embed the AI within existing RTA systems.
- The Plan target is to maximize the value of the data assets available in RTA systems and build analytical, machine learning and artificial intelligence use cases.

## Project Output/Outcome (What was delivered)

- Consolidated AI and big data roadmap to support in AI and Data pioneering
- Provide RTA data scientist with AI platform for implementing AI use cases.
- Integration with RTA main systems and platforms IAM, Big data, SiEM , Maximo and TIBCO for security compliance and seamless experience
- Enable all RTA departments to implement use cases



**RTA Goals and Objectives contributed to**

**Future-Proof Organization**

1. Develop leading R&D and innovation capabilities
2. Become a pioneering data driven organization

### Benefits Measurement Contributed to

**B13:Cost Reduction for RTA**  
 Saving of 4.5M by utilizing the existing integration exist in the enterprise big data platform. **(Cost of data integration \* number of data integration)**  
 Reduce the time and the cost required to implement AI use cases by 50% by utilizing the existing tools for data management and out of the models for implementation  
 Reduce the time and the cost required to support and operate the AI use case by 40% by utilizing MLOps tools exist within the AI platform

\* Benefits will be realized after 12 months of going live

# Study of Strategic Technology Transformation

Start Date Jan 2022      End Date Sep 2023      Project Cost 8.5M AED

**Strategies**  
Digital Strategy

**Business Value**  
 ROV  
 ROI  
 GRC

## Baseline State

The leadership at the Roads and Transport Authority (RTA) is looking to leap forward in technology and define a roadmap in line with the mega trends and strategic government directions, assess any gaps that can hold back the RTA from achieving the position of a world-class transport regulator.

## Project Output/Outcome (What was delivered)

- Current state assessment and benchmark reports
- RTA Digital strategy 2023–2030
- Comprehensive roadmap
- Enterprise Target Architecture
- Target operating model
- LA roadmap and quick win



### Benefits Measurement Contributed to\*

- B16 Increase in Digital Adoption
- B36 Increase in people happiness
- B39 Increase in open data sharing
- B48 Asset performance enhancement

\*Once digital strategy roadmap will be implemented

# RTA Smart Teller Machine

Start Date Jul 2022

End Date Sep 2023

Project Cost 26M AED



People Happiness



Operational Efficiency



Asset Sustainability



Service Delivery



Information Centricity



Innovation Pioneering

## Strategies

Digital Strategy

## Business Value

✓ ROV

## Baseline State

Previously total number of kiosks was 22 in 15 locations within Dubai, averaging 51K transactions per month. To maintain the previous kiosk, there was a yearly spending of 31 Million AED.

## Project Output/Outcome (What was delivered)

- 30 smart teller machines have been implemented in 21 locations
- Interactive and user-friendly machines providing an outstanding self-service user experience to RTA customers
- 24/7 for 24 different RTA services including DL, VL, Fines payment, Collection, RMS and Certificates services
- Multiple payment methods to reduce the cash payment and convert it to cashless service, in order to achieve smart payments and service plans
- 24/7 monitoring, operation, and support to provide high-availability services to RTA customers



### Benefits Measurement Contributed to

#### B13 Reduction in Cost to RTA

The total cost has been reduced from 31 Million AED for the previous contract to 13,953,587 Million AED which provides more features i.e number of kiosks and locations and 24/7 monitor tool.

#### B16 Increase in Digital Adoption

% Adoption rate = (Number of new users)/(Total number of targeted users) x 100

\* Benefits will be realized after 12 months of going live

# Implementing SDSC Migration

Start Date Jun 2021      End Date May 2023      Project Cost 1.22M AED

 People Happiness   
  Operational Efficiency   
  Asset Sustainability   
  Service Delivery   
  Information Centricity   
  Innovation Pioneering

**Strategies**  
Digital Strategy

**Business Value**  
✓ ROV

## Baseline State

Data Warehouse hardware infrastructure was going out of support by October 2021 and needed to be replaced with new hardware and migrate dashboards to new hardware infrastructure for Business Intelligence Operations continuity.

## Project Output/Outcome (What was delivered)

- With a dependable infrastructure in place, RTA Stakeholders can experience improved system reliability and uptime to avail several dashboards
- Improved system performance will enable business users with faster response time and seamless operations contributing to increased efficiency



**RTA Goals and Objectives contributed to**  
2.4 Optimize Asset Value

### Benefits Measurement Contributed to

**B19 Improvement in Asset Availability**  
 On old PDW Server Environment: Availability =  $95 / (95 + 5) \times 100 = 95\%$   
 On new BDP Server Environment: Availability =  $99.9 / (99.9 + 0.1) \times 100 = 99.9\%$



# Study of System Consolidation & Transformation

Start Date Apr 2021

End Date Jan 2022

Project Cost 2.7M AED



People  
Happiness



Operational  
Efficiency



Asset  
Sustainability



Service  
Delivery



Information  
Centricity



Innovation  
Pioneering

## Baseline State

This project was an initiative based on the outcome from the rationalization study conducted in 2018

## Project Output/Outcome (What was delivered)

- Clear target state design covering the overall RTA Enterprise Architecture for the potential selected systems
- Detailed and compelling Business Case & RFP with a clear implementation roadmap to deliver the following expected tangible benefits:
  - Reduction in cost with over 60 Million savings over 10 years
  - Enhance RTA's Corporate Governance Standard by establishing baseline target architecture for RTA systems landscape and a governance standard for any new system
  - Enhance and standardize user experience for multiple systems in one platform with enhanced performance
  - Remove redundancy in Infrastructure and data due to better assets utilization (one infrastructure and centralized data)
  - Establishment of Data classification for the potential selected systems

## RTA Goals and Objectives contributed to

- 1.1 Achieving Pioneering in Digital Transformation
- 1.2 Become a data driven mobility organization
- 6.2 Enhance financial efficiency
- 7.3 Enhance process, policies, and corporate governance
- 7.5 Enhance integrations & systems optimization

# Automation of Enterprise Sustainability

Start Date Jul 2021

End Date Jun 2023

Project Cost 370K AED



People Happiness



Operational Efficiency



Asset Sustainability



Service Delivery



Information Centricity



Innovation Pioneering

## Strategies

ITD Execution plan 2023  
Digital Strategy

## Business Value

✓ ROV  
✓ GRC

## Baseline State

Manual approving/capturing data related to green economy and inefficiency in performing analysis and planning.

## Project Output/Outcome (What was delivered)

- Workflow automation enabled data validation with zero errors & gaps which enable the system to provide efficiency suggestions with savings, costs & ROI
- Simulate the impact of set measures through 'Scenario Modelling'



## RTA Goals and Objectives contributed to

2.3 Enhance Operational Efficiency

3.2 Foster corporate, assets, and mobility Security

## Benefits Measurement Contributed to

**B23 - Time Saving** - Time saved = [(average time to prepare the GEF quarterly reports without software - (average time to prepare the GEF quarterly reports with software)] x number of reports per period  
Time saved (when all data is available, and the analysis is complete) = [(3 days) - (1 days)] x 4 per year = 8

**B45 - Enhance RTA's Corporate Governance Standard** - Availability of software support the RTA obtaining ISO certifications.  
Number of ISO Standards in which the software support : ISO 14001, ISO 45001, ISO 50001, ISO 14064

**B46 - The software supports RTA to be a leading entity in adopting sustainability practices** via having all the sustainability related data in one platform to Improve data integrity and records at enterprise level and at agency/sector level.

Become information driven Entity - Number of system that needs to be integrated / number of systems that are integrated  
200 / 200 = 100%

# Big Data Platform

Start Date Mar 2017

End Date Sep 2021

Project Cost 25.9M AED



People Happiness



Operational Efficiency



Asset Sustainability



Service Delivery



Information Centricity



Innovation Pioneering

## Project Output/Outcome (What was delivered)

- Deployment of a complete infrastructure of Big Data Platform integrating 39 source system (internal and external)
- Implemented 17 advanced use cases using Big Data Technology and MicroStrategy application, effectively supporting PTA, RAIL, TRA agencies and SCG Sector (EC3)
- Deployment of GTFS-Real Time API for PTA
- Enablement of Smart Service Department to consume GTFS-Real time data for RTA S'Hail App and different RTPI Screens across various bus stops in Dubai
- Delivered capability for EC3 team to develop and deploy real time streaming data pipeline providing meaningful insights, trends and indicators for EXPO 2020 dashboards

## RTA Goals and Objectives contributed to

- 1.1 Achieve pioneering in digital transformation
- 7.3 Enhance policies, processes, corporate governance
- 7.4 Ensure Pioneering in R&D Innovation & Shaping the Future

## Benefits Measurement Contributed to

### B22 Pioneering solution take-up

One of the first projects in UAE and in the region on the level of the government sector to deliver complete infrastructure of the Big Data Platform

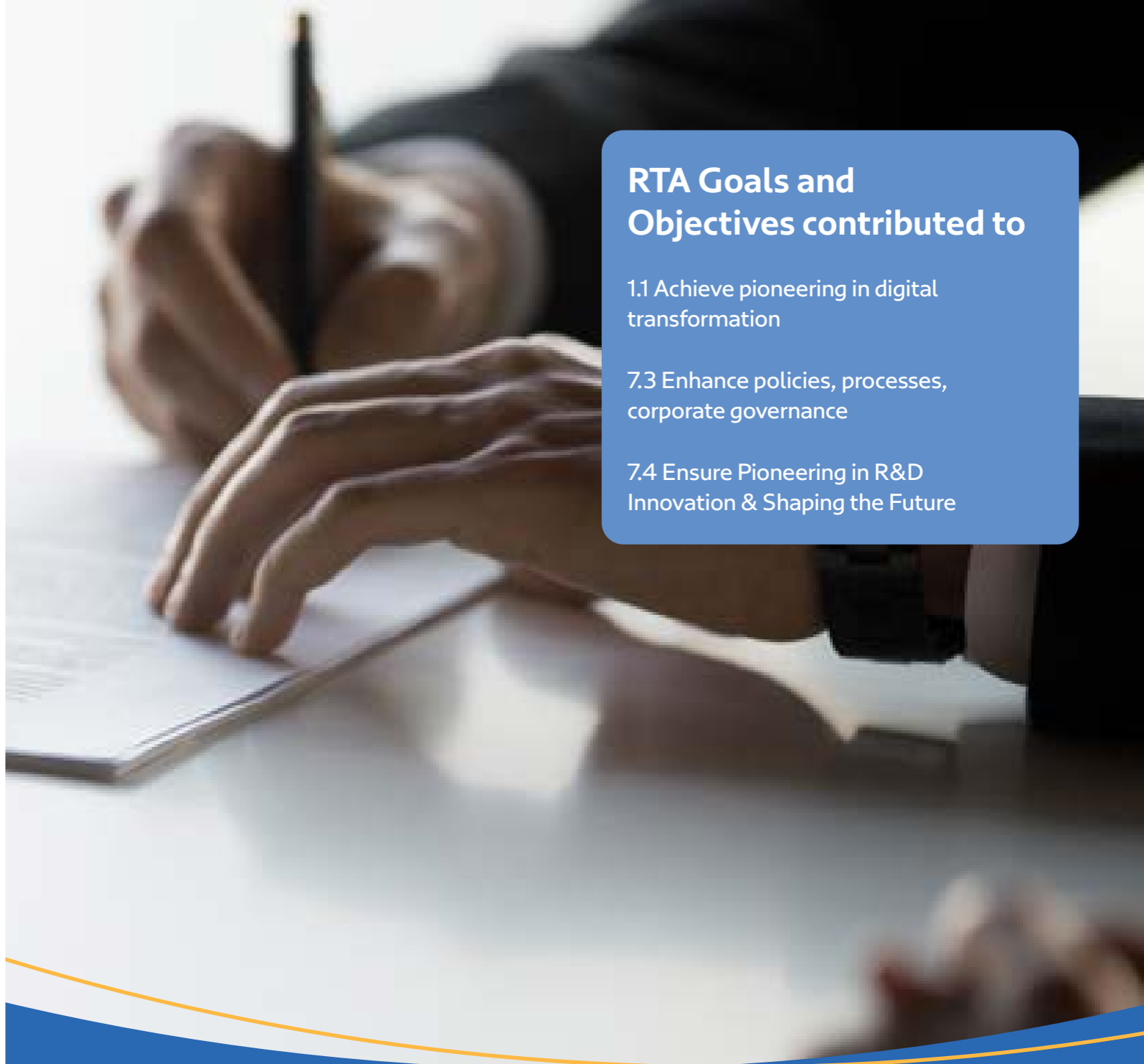
# Contract E-Signature

Start Date Dec 2020      End Date Mar 2022      Project Cost 1.1M AED

People Happiness    Operational Efficiency    Asset Sustainability    Service Delivery    Information Centricity    Innovation Pioneering

## Project Output/Outcome (What was delivered)

- Secure platform to sign documents
- Signatory identification with Emirate ID/UAE Pass using face verification
- Compliance with Government Law
- Improved Operational efficiency by enhancing the signing process for internal staff and external customers
- LTV functionality enabler and Data integrity proofed
- Automation of document signing validity
- Reduce business operational cost and time, as well contributing to reduction of CO2 emission



### RTA Goals and Objectives contributed to

- 1.1 Achieve pioneering in digital transformation
- 7.3 Enhance policies, processes, corporate governance
- 7.4 Ensure Pioneering in R&D Innovation & Shaping the Future

### Benefits Measurement Contributed to

**B16 - Increase in Digital Adoption -**  
% Adoption rate = (Number of new users)/(Total number of targeted users) ×100 .  
As project original scope % **Adoption rate** = (385)/(100) \* 100 = 385%

**B21 - Reduction in paper usage**  
C&P department to calculate the KPI.

# Key Achievements



Reduce the time to market for any AI project by 50%



Reduce the time required for support and operations of AI use cases by 60%



Approximate Cost saving by 18M AED due to implantation of high ROI AI use cases on enterprise level



The AI platform provides a collaborative workspace that facilitates cooperation between data analysts and data scientists. It enables the team to share data science projects, datasets, and machine learning



# Recommendations and lessons learnt

1. Set measurable goals, such as cost reduction, efficiency improvements, or revenue growth.
2. Prioritize use cases that provide the highest ROI and are scalable.
3. Ensure the AI initiative aligns with the organization's long-term strategy and vision.
4. Conduct a data audit to assess the quality, availability, and security of existing data.
5. Establish robust data governance practices to ensure compliance and consistency.
6. Begin with small, manageable projects to demonstrate the platform's value.
7. Use the pilot to identify challenges and refine implementation strategies.
8. Provide training programs for employees to use and manage the AI platform effectively.
9. Encourage collaboration between data scientists, analysts, and business users.
10. Design the AI platform to scale with the organization's growing data and analytics needs.
11. Continuously monitor the platform's performance and its impact on business outcomes.
12. Use feedback to optimize algorithms, models, and processes.



