



# The Cliffhanger

A case study on Nefaa



# Table of content

**1** INTRODUCTION

**2** WHAT IS TMO

**3** DIAGNOSTIC

**4** WORKSTREAMS

- 4.1 Archives
- 4.2 Process digitization
- 4.3 Chatbot
- 4.4 Survey results

**5** BENCHMARKING

**6** CONCLUSION

# Executive summary (1/2)

Year 2023 edition of the Youth for Governance (Y4G), a summer internship program hosted by Siren Associates in partnership with USJ and focusing on administrative reform, hosted a group of 30 students who concentrated their efforts on the Traffic Management Office (TMO) – aka Nefaa, the Public Institution that deals with all traffic, vehicles and driving related formalities. The Vehicle Registration Office (VRO), one of 4 offices in Nefaa, was the main object of the project, as it witnesses the highest number of interactions with citizens, and as it represents a typical case of state capture by the elite. Moreover, a corruption scandal had recently shaken the organization which resulted in long periods of service interruption. To restore these services, the Minister of Interior assigned 30 ISF officers to take TMO's operations in charge, thus delivering a strong message of his will to combat corruption and use the institution as a model of reform for other public administrations. This conjuncture was the perfect case study for this year's Y4G program.

Upon discovering and understanding, through both desk research and field work, the main elements that structure and drive TMO's operations, the interns identified several challenges facing the institution: Following both the economic / financial crisis, and the corruption scandal that plagued TMO, the members of its cadre decreased from the official number of 114 to only 24; the multiple periods of closing (Covid, investigation, arrests...) aggravated the already dire conditions where many VRO services were interrupted. In addition, the legal and financial framework analysis revealed that while TMO on paper is endowed with both administrative and financial autonomy, most of its decisions are still subject to the Ministry of Interior and Municipalities (MoIM), the tutorial authority, and to that of the Ministry of Finance (MoF). Furthermore, TMO's financial by-laws nowhere mention that, similar to other autonomous public institutions, it can establish an "investment system" where self-generated revenues feed into a fund owned and managed by the institution.

The lack of resources consequently affected TMO's operations, that displayed absent or outdated procedures, lack of organization, crumbling infrastructure, minimal adoption of modern technology-based solutions... All leading to poor and inefficient services provided to citizens, that feature in addition to the prevalence of bribery and middlemen, multiple visits to complete a single transaction along with waiting times that sometimes exceeded 4 hours, and queues that start forming on previous evenings to increase a citizen's chance to pass a vehicle inspection the next day. Limited and inaccurate information about formalities further complicated their completion.

# Executive summary (2/2)

Upon discovering the magnitude of the deterioration and chaos afflicting VRO, the interns decided to implement quick initiatives that would significantly improve the quality of services rendered to citizens while also streamlining work for employees, hence increasing their efficiency. They embarked on an 11 weeks journey for organizing VRO's archives, handling over 85,000 files, locating misplaced documents and pending transactions. They also completed the data-entry for over 25,000 files.

In parallel, another team worked on targeted interventions to digitize files, automate workflows and improve citizens' access to information: they designed and deployed an appointment booking portal, designed an e-portal for driving schools, another for car dealerships, all while using best architecture and coding standards. They also designed a chatbot to answer citizens' frequent questions about VRO services.

In order to understand citizen's perception about VRO and to measure their satisfaction with the services provided, the interns conducted surveys at the project initiation and following the deployment of the online booking portal: satisfaction increased from 13.74% before to 84.31% two weeks later with more than 2500 appointments booked.

Following these quick initiatives, a group of interns conducted a benchmarking survey to identify best practices that TMO in other countries are using and derive what can be applied to enhance the vehicle registration process in Lebanon.

And finally the interns made a set of longer term recommendations revolving around building the institutional capabilities, by redefining the role of staff and functions in light and filling vacancies with the adequate staff, and enhancing the skills of existing employees; by exploring avenues for setting-up an "investment system" and for generating own-revenues through 1. leveraging existing assets and 2. developing and selling new services. They also advised to complete the digitization process and to set a cut-off date when citizens would upload their own documents and VRO proceeds with the compilation of a digital archive of the documents. As for old files that are rarely accessed, they recommended a simple solution consisting of finding an adequate referencing system for easy access.

On a more strategic level, TMO executive authority needs to set a strategy and a baseline for KPIs. It should also introduce good governance in its procurement practices in line with the new legislation, as well as making sure that different layers of oversight are in place including an internal unit, oversight institutions, civil society and public opinion, so as to enforce integrity, transparency, and accountability.

# 01

## Introduction

# What is Y4G and who are we?

Initiated in 2021 by a Group of USJ Alumni at Siren, the Youth 4 Governance program provides a 2-3 months internship for students every summer. The objective is to offer young people in Lebanon an alternative to leaving the country, where they actively participate in reforming State institutions.

2021

From July to September 2021, as part of their internship program, a total of 28 students conducted a three-part perception study on the Lebanese public administration. The study surveyed opinions among the general public, civil servants and Central Inspection staff.

2022

In 2022, a total of 42 students conducted a survey across Lebanon to understand poverty and the measures developed by the State authorities to respond to the needs of citizens. The questionnaire covered the profile of respondents, their economic situation, the impact of the crisis, and their perception/relation to social safety net programs.

2023

In this year's edition, 30 students from different universities and multiple education tracks worked in teams to understand the prevailing situation at the TMO - commonly known as Nefaa; while focusing on the VRO, which is the division most visited by citizens for their vehicles and driving licenses formalities.

# Why the TMO, and the VRO specifically?

The recent shake-up at the institution, following the interim appointment of the ISF in replacement of the previous TMO staff, represents an opportunity to disrupt the public administration generalized downward spiral and reconstitute the TMO as a case study on how to reform, and modernize public institutions.

Since 2019, the TMO **has been mired in legal troubles, primarily stemming from a corruption investigation.**

The investigation involved numerous raids and has led to the **arrest, prosecution and detention of several high-ranking officials within the TMO**, including the TMO and VRO's General Directors. The charges span a wide range of alleged offenses including document falsification, bribery, professional negligence, embezzlement of public funds, abuse of power, illicit enrichment, and the waste of public funds, **highlighting the depth of corruption allegations within the institution.**

**The shortcomings of this institution** present **several challenges** to Lebanon's sustained stability.

A corrupt and inefficient vehicle registration system not only **hinders police investigations** but also distorts the vehicle import market causing **a loss of revenue for the government during an economic crisis.**

**The public's diminishing faith in the government** is exacerbated by their unfavorable interactions with administrative procedures in Lebanon, widening the gap between the state and the citizens.

**Why our project particularly focused on the VRO?**

VRO is the TMO office that witnesses the most frequent interactions with the public, as it is visited by citizens for dealing with their cars and driving licenses formalities.

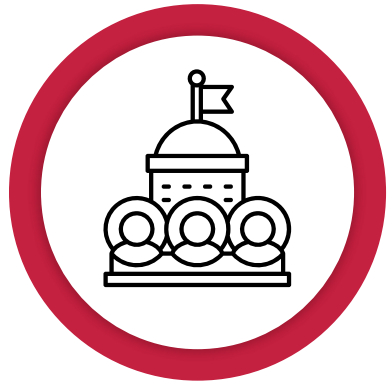
These frequent interactions between civil servants and citizens occasion an equal number of avenues for corruption.

VRO is an important source of revenues for the state; efficient and transparent transactions will **improve both service delivery to the citizens and revenues for the state.**

# Using VRO's transformation as a case study for reform

This report introduces an in-depth case study of Lebanon's VRO in Dekweneh, focusing on its transformation and modernization. It emphasizes the potential benefits of thoughtful reforms, efficiency, and the significant economic advantages they may bring to the public sector.

The recent changes at VRO serve as a case study of how to reconstitute a public institution into an example of:



Good governance



Fiscal responsibility



Efficient service delivery





# What are the main streams that we conducted?

The Youth 4 Governance team conducted an in-depth analysis of the VRO operations and focused on 3 main activities.

## Methodology

On-site  
field work



Archives

Desk Research  
and analysis



Surveys  
Benchmarking

AI and  
Technology



Digitization  
and AI chatbot

## Outputs

# 02

## What is TMO?

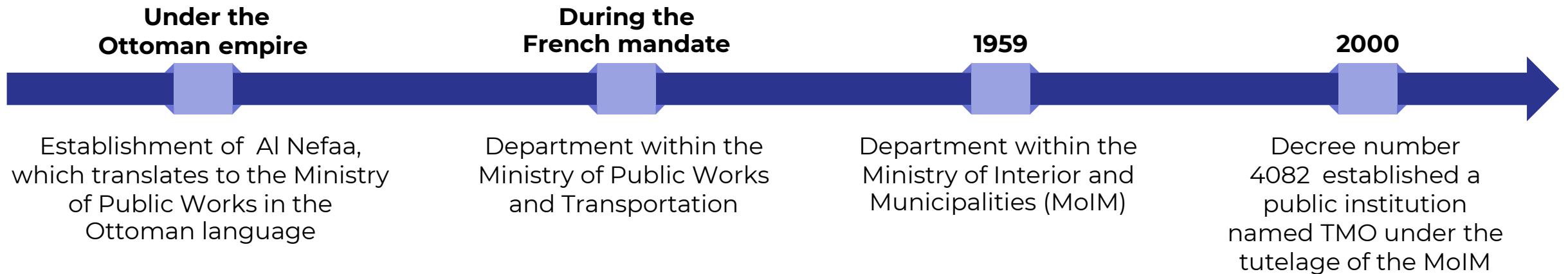
# TMO's general background

Originally established during the Ottoman Empire, Nefaa was affiliated with various ministries until it was finally established in 2000 as a Public Institution under the tutelage of the Ministry of Interior.

Nefaa is the TMO in Lebanon.



The word “Nefaa” refers to the Ministry of Public Works under Ottoman rule in Lebanon.

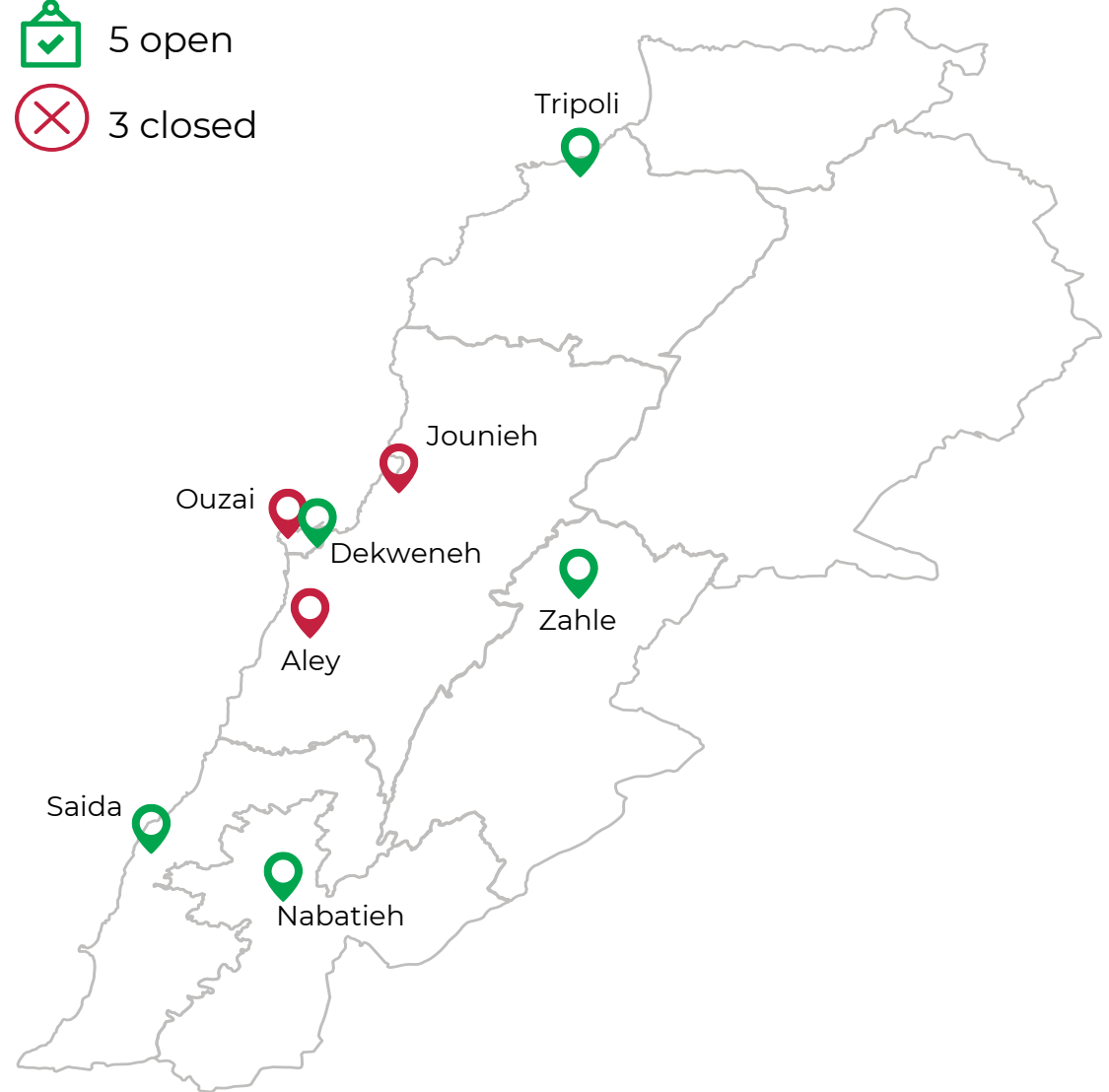
The word “Nefaa” also means helpful.



# Where does TMO receive and serve citizens?

TMO operates through eight regional centers. In 2022, Lebanon's vehicle registration centers faced significant disruptions, including widespread closures and the arrest of several employees on corruption charges. As of April 2023, these registration centers have reopened as part of an ongoing plan to gradually normalize operations, following efforts to address financial, administrative, and logistical challenges. It is important to note that, for now, these centers are operating on a limited three-day-a-week schedule.

-  5 open
-  3 closed




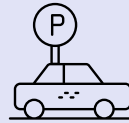
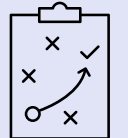
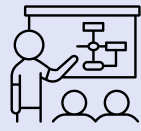




Region	Staff (after closure)	Status
Dekweneh	31 ISF and 24 civil servants	Opened
Jounieh	-	Closed
Aley	-	Closed
Ouzai	-	Closed
Zahle	18 civil servants	Opened
Saida	16 civil servants	Opened
Nabatieh	13 civil servants	Opened
Tripoli	10 civil servants	Opened




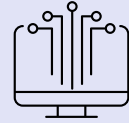
# What does TMO do?

As established in Decree 11244/2003 , in addition to the Diwan Office that handles Finance and Administrative affairs, and to an IT Department, the TMO has 3 Offices that carry out its main operations: The VRO, the Parking Management Office and The Traffic Engineering Office.

## Overview of the TMO's role

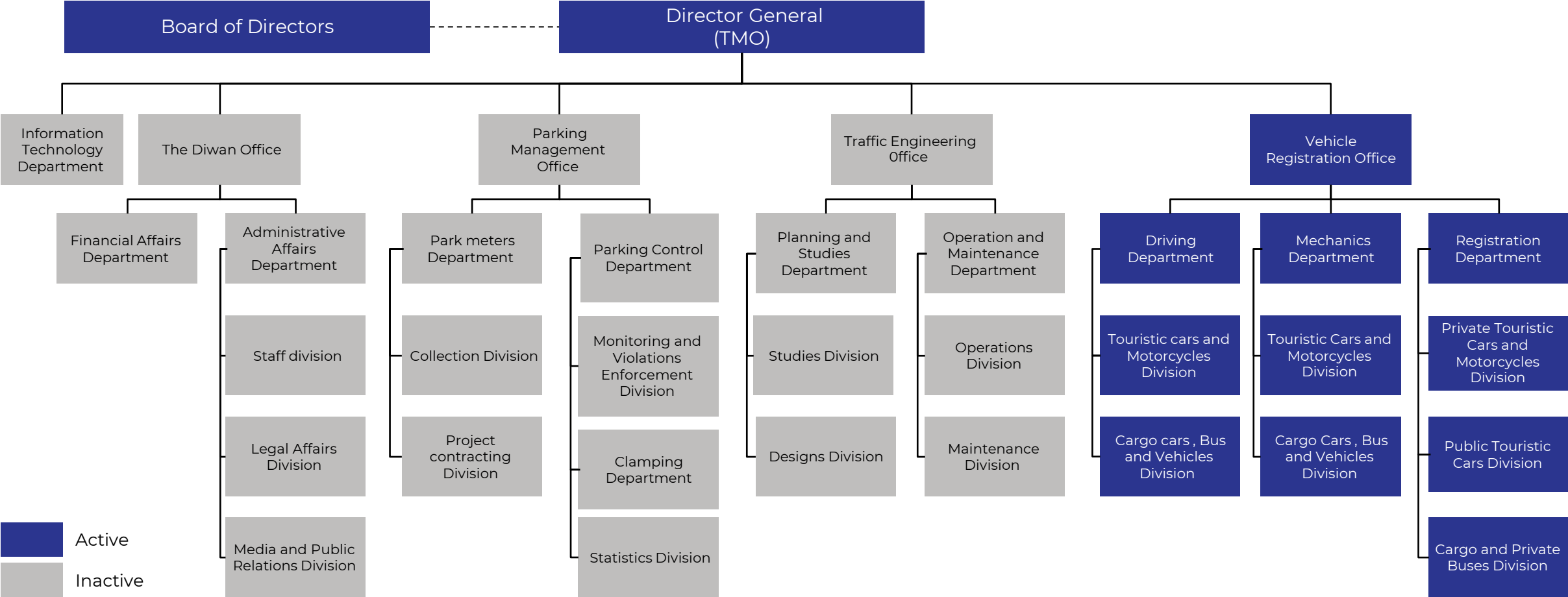
 <p>Ensure application of traffic and vehicle registration laws and regulations</p>	 <p>Information, guidance and training</p>	 <p>Provide services to private and public sector</p>	 <p><b>Parking Management Office</b> Management of roadside parking</p>
 <p><b>Traffic Engineering Office</b> Managing and controlling traffic signals</p>	 <p>Study of traffic engineering</p>	 <p>Operational planning and strategies for traffic management</p>	 <p>Support in traffic control and enforcing regulations</p>

## Overview of the VRO's role

 <p>Ensure implementation of the traffic law for matters related to the TMO's mandate</p>	 <p>Ensure application of issued laws, decrees and decisions related to the registration of cars and driving licenses</p>	 <p>Monitor activity of departments and issue needed directives to organize undertakings</p>	 <p>Control the work conducted by specialized and technical committees supporting departments in their activities</p>
---	--	---	--

# How is TMO structure organized to carry-out its activities?

The TMO is composed of four offices and one department. Currently however, only the VRO is active.



# How did TMO deliver its services?

The TMO was not relying on its internal resources to carry-out its core activities but had instead outsourced most of its operations to third parties in the private sector.

## VRO operations

Vehicle registration, plates and driving licenses were outsourced to INKRIPT. This was done following a first tender which was deemed illegal by the Court of Accounts. Tender in 2014. Contract awarded in 2014. Work initiated in 2016. Amount USD 175 million, at USD 25 million / year. Duration 7 years.

## Parking Management Office

Outsourced to 3<sup>rd</sup> party. Nead-Duncan awarded contract in 2004 to collect parking fees in Beirut.

## Vehicles Inspection (mécanique)

Outsourced to 3<sup>rd</sup> party: Faal. Subject to frequent shut-downs due to disputes over exchange rates and terms of payment by government to provider

## Traffic Engineering Office

Inactive

November 15 2022



Arrest warrant against the Director General of the TMO for professional negligence and corruption. The TMO was then closed for 6 months.

April 11 2023



The TMO opened again with 30 ISF members trained on vehicles' registration.

May 30 2023



Beginning of the intervention at the TMO in order to assist with the archiving of files which had not been processed during the closure.

June 15 2023



The tmo.gov.lb platform was launched.

July 11 2023



Shut-down of INKRIPT system.

# What staff does TMO have to conduct operations?

The TMO is currently heavily understaffed with 79% vacancy. All its allocated staff is of the third and fourth categories. To keep the institution operational, the Minister of Interior and Municipalities assigned 30 ISF officers and heads of departments and offices.

The Board of Directors of the TMO approves the conditions and regulations of the competitions based on the proposal of the Director General, if it is approved by the Civil Service Board. However, article 21 of the 2017 budget law, stated that all forms of employment and contracting are prohibited, except by a decision issued from the Council of Ministers.

## Dekweneh Branch Staff

Function	Actual Number	Number specified by Decree 11244	Category
Monitor of expenses	1	1	3
Acting Head of VRO	1	1	3
Acting Head of the Administrative Affairs Department	1	1	3
Mechanic	1	19	4
Staff	19	87	4
Accountant and auditor	1	1	4
<b>Total</b>	<b>24</b>	<b>114</b>	

**55%**  
of overall employees **only in the Dekweneh branch.**

**79%**  
of positions at the Dekweneh branch **are vacant.**

The current heads of departments and officers in the TMO were appointed temporarily.



# What is the legal framework that governs TMO?

The TMO's legal framework has evolved over time, providing it with progressively increasing independence; however, the actual extent of its autonomy remains questionable on both the administrative and financial levels.

The legal nature of the TMO has changed over time. Effectively, it evolved from being a department within the Ministry of Public Works into the Ministry of Interior and Municipalities and eventually became an independent institution under its tutelage.

The TMO is a public institution established under Decree No. 4082 dated 14/10/2000, and it is subject to the provisions of decree No. 4517 dated 13/12/1972, related to the organization of public institutions.

It is endowed with its own legal personality and is legally guaranteed financial and administrative independence. Nonetheless, the TMO is subject to the tutelage of the Ministry of Interior and Municipalities. It is also subject to the financial control of the Ministry of Finance.

The appointment of its Director General and Board of Directors are subject to interferences by various ministers and the final decision is made by the Council of Ministers.

Additionally, all the revenues generated at the TMO are collected on behalf of the State and feed into the Single Treasury Account at the Central Bank.

# How is TMO governed and how does it make its decisions?

The TMO is split into two authorities: the decision-making authority managed by the board of directors and the executive authority presided by the Director General. This creates a possible divergence between the leadership within the institution. However, decree 4517/1972 related to the organization of public institutions allows for a single person to head both authorities, which is the current case.

## Board of Directors

### Decision-making authority

The board of directors is responsible for making decisions within the institution. Its president is responsible for coordinating the board's meetings. Its decisions cover:

- Personnel regulations and procedures.
- Cadre, terms of appointment, categories, ranks, and salaries hierarchy.
- Internal regulations.
- Financial regulations.
- Investment system.
- Annual budget.
- Supply, operation and services deals.

## Director General

### Executive authority

The Director General is the head of all the units within the TMO. The prerogatives are clearly defined as:

- Recruitment of employees and other personnel after approval by the Civil Service Board.
- Implementation of decisions issued by the Board of Directors, and management of the public institution's affairs.
- Coordination of work between the various implementation units, employees and other personnel in the public institution, while monitoring the work.

# What are the processes for appointing the BoD and the DG?

Board members' appointment and termination processes are outlined by law NO.7 issued on July 3, 2020 which also sets the term of the board members to 3 years . However, the latest appointment decree (NO. 7853) was issued in 2002 and is still in effect.

Law NO. 7, issued on July 3, 2020, outlines the procedure for the appointment as well as the termination of services of the first category employees in the public sector. Accordingly, the appointment and termination of service for presidents of the board of directors and directors' generals in public institutions are carried out as follows:

## 1. Appointment process



## 2. Termination of Service

- a) The Council of Ministers has the authority to terminate the service of the President of the Board of Directors and its members at any time, by a decree issued based on a proposal from the Minister of Interior and Municipalities.
- b) The service of the President of the Board of Directors and its members is also terminated in the following cases:
  1. If the president or a member loses one of the required qualifications for their appointment, after seeking the opinion of the Civil Service Board.
  2. If the person in question resigns.

# How is TMO budget established and approved?

Even though the TMO legally benefits from financial independence, its budget is still contingent on the approval of the Ministry of Interior and Municipalities, and the Ministry of Finance, and its sole revenues so far, are the allocations affected to it in the state general budget, which restrains its financial independence.

The financial system of the authority issued in 2003 has a general nature, as it outlines the general principles that regulate budgeting, construction contracts, materials, and services. The TMO's budget is approved according to the following process:



■ Internal procedure   ■ External procedure

The budget consists of:

**Expenses:** Regular budget allocations for the administration's operations and budget allocations for non-ordinary equipment, construction, and maintenance.

**Revenues:** Ordinary revenues (self-generated resources) - Exceptional revenues (budget allocations - grants and donations - reserve funds - treasury loans) – other resources (specified by Law).

# 03

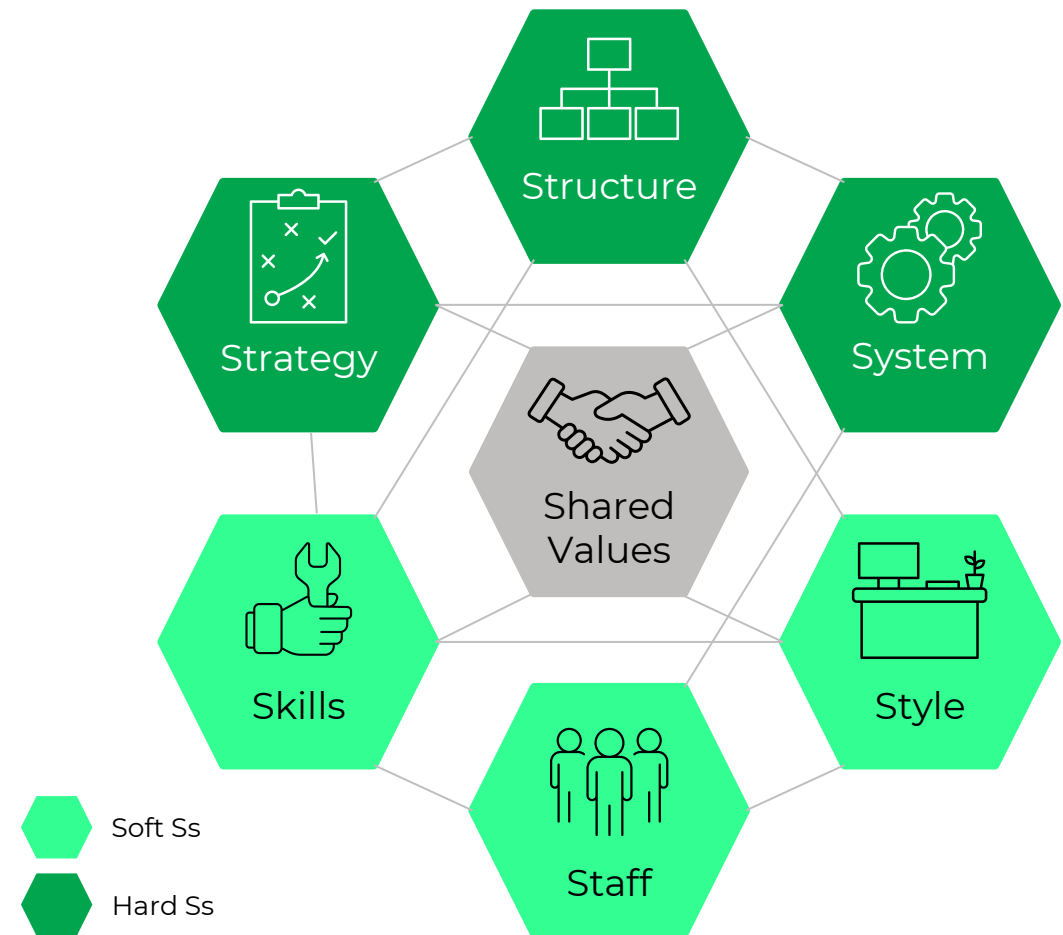
## Diagnostic and problem areas

Assessment of issues and opportunities

# An in-depth exploration

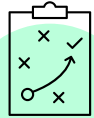
To assess the current state of TMO, identify and address the issues, the McKinsey 7-S model was adopted. The framework is used to analyze and improve organizational effectiveness across 7 different elements.

- ▶ **Structure:** establishes a clear chain of command to prevent chaos and confusion, fostering employee accountability.
- ▶ **Strategy:** creates a detailed plan for change implementation that aligns with an organization's vision, mission, and values.
- ▶ **System:** encompasses the business processes and operational procedures that impact productivity and decision-making within the organization.
- ▶ **Skills:** reflect abilities of employees to complete tasks.
- ▶ **Staff:** focuses on the workforce, including its size, motivations, training, and rewards.
- ▶ **Style:** influences employee productivity and satisfaction.
- ▶ **Shared values:** shapes an organization's culture and play a vital role in achieving behavioral changes during change initiatives.



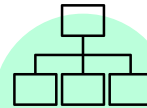
# Systematic excellence: the 'Hard S' in 7S

**Hard Ss:** Elements that are more concrete, measurable, and structural in nature. These are the aspects of an organization that can be easily identified, quantified, and sometimes changed with relative speed.



## Strategy

- TMO has acted as a two-way channel: One that collects taxes and fees on behalf of the state, feeding into the single treasury account; the other, channeling funds from the state to private contractors, both benefiting from and reinforcing the patronage system that is entrenched in Lebanon's public procurement deals.
- After ISF took control, they developed a high-level roadmap for reform, not a full-fledged strategy, but an attempt, to restore credibility in the institution and restore the state's ability to generate revenues while resisting pressures for new avenues for state capture.



## Structure

- Inefficient and unclear physical workflows.
- Poor signage and overall incoherence for service customers.
- Allowing middlemen to access the TMO offices.
- Scattered and unorganized citizen's files.
- Lack of office logistics and furniture  
Crumbling infrastructure.
- Unhealthy work environment.

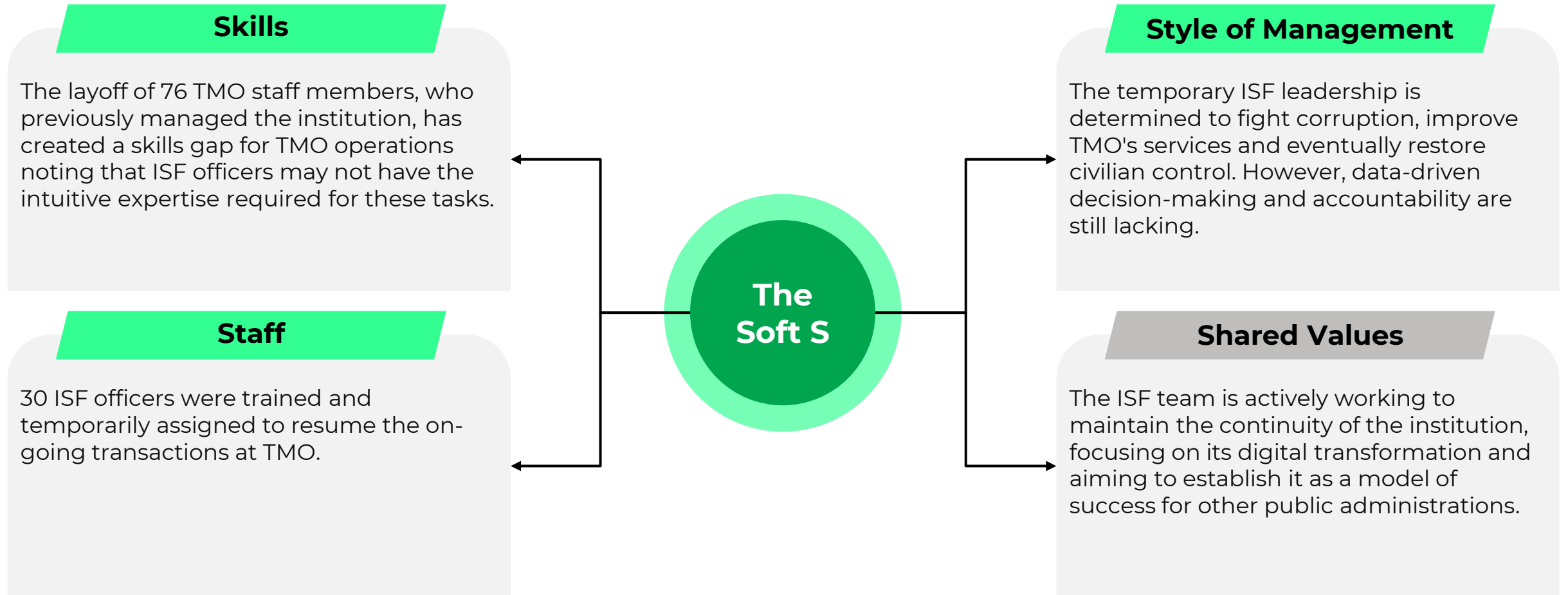


## System

- Existing system: VRP2, developed by INKRIPT.
- Backend functionalities developed for data entry of cars and driving licenses.
- Poses long-term sustainability concerns.
- Poses security concerns for the TMO.
- System ownership is unclear whether by the TMO or private company.
- No ticketing system and queuing process.
- Supporting documents are not digitized.

# Success beyond structure: the Soft S of 7S

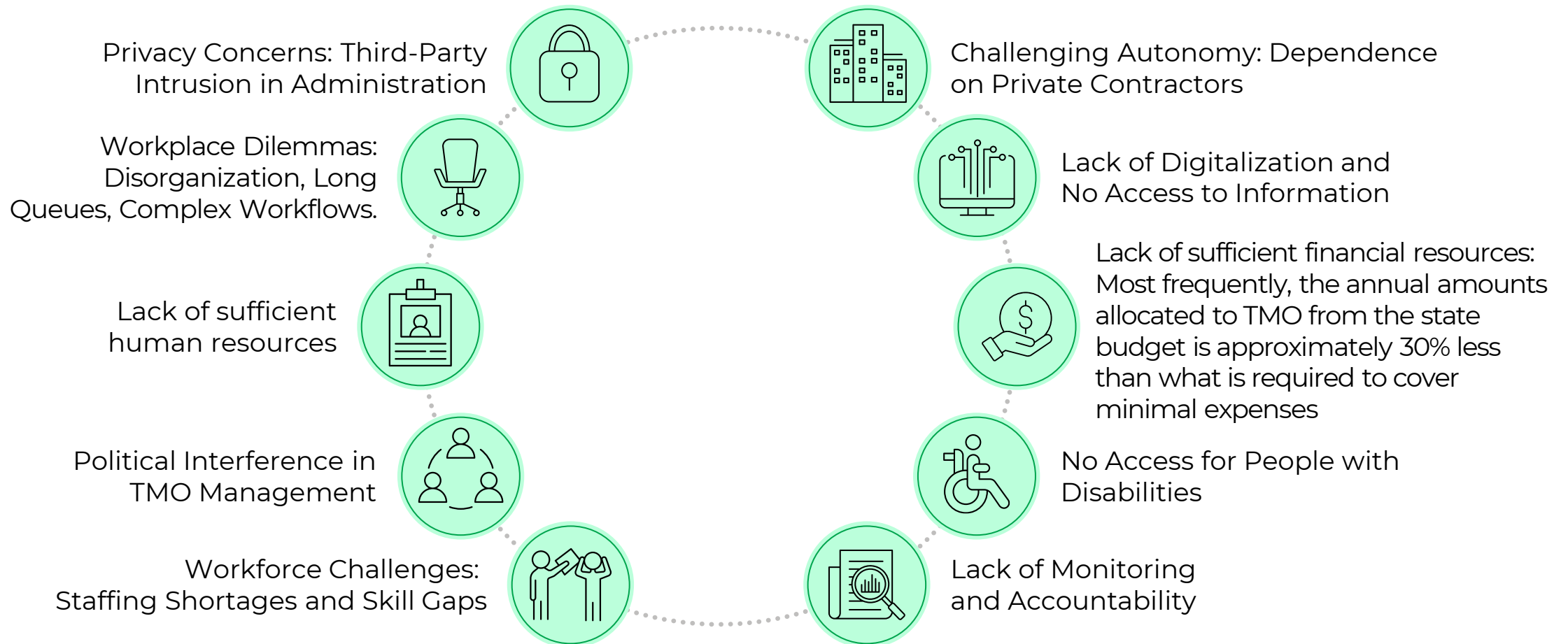
**Soft Ss:** Elements that are more subjective, cultural, and behavioral in nature. These are the aspects of an organization that are influenced by human interactions, values, beliefs, and attitudes.





# What are the most salient roadblocks facing TMO?

The institution grapples with challenges on multiple fronts, with some being shared by all public institutions, while others are distinctive to this particular institution.

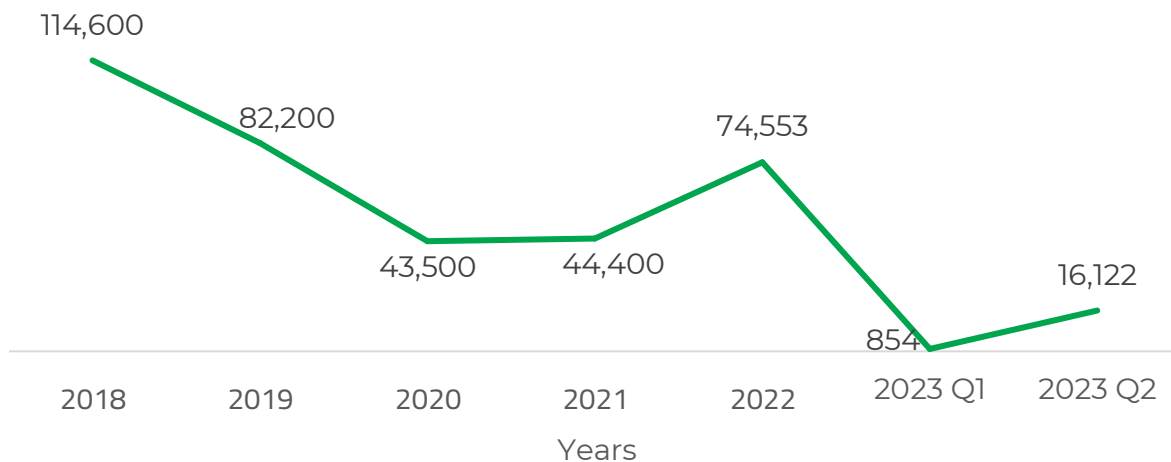


# TMO drop in performance

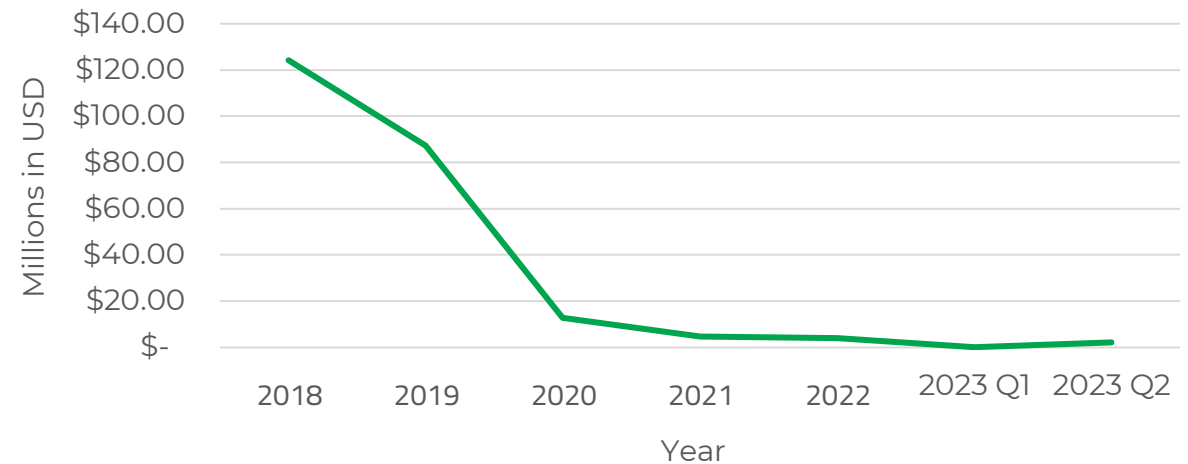
Before the onset of economic / financial crisis, TMO – VRO in particular – was an important revenue generating institution to the state, yielding, from the car registration service alone, the equivalent of 120M dollars in 2018. Following the massive currency depreciation, these revenues were down to approximately 4M dollars as of December 31st, 2022, when fees were still collected at an official dollar rate of 1,500 LBP to the USD.

Considering the multidimensional crises, a significant decrease in the number of car registrations was noticed between 2018 and 2023. Following the financial / economic crisis in 2019, and before the salary increases were adopted by the government, the average salary of TMO's public servants was around LBP 2 million. Most employees either stopped coming to work or came 3 days at maximum. The number of transactions they could process automatically declined. In 2022, car registrations increased but never came back to their original levels. The financial impact on state revenues reflected both the drop in number of transactions, but also the drop of its real USD value, when calculated at prevailing market rates.

Annual Number of Car Registrations



Annual revenue of car registration per year



# TMO drop in performance

The decline was further exacerbated by widespread corruption, at all levels of the institution: Outsourcing core activities to private sector third parties left the TMO (and VRO) with almost non-existent infrastructure, cumbersome administrative procedures and limited human resources – in both numbers and capabilities – in addition to weak control procedures – all leading to multiple avenues for corrupt practices to proliferate.

Since 2019, employees at TMO have been subject to a corruption investigation. The inquiry involved numerous raids and has led to the arrest, prosecution and detention of several high-ranking officials within the TMO.

In a 2022 decision issued by the Court of Accounts, the tender with Inkript was found to be void as it was in violation of applicable laws and regulations on public procurement. The Board of Directors of the TMO was also sanctioned for its wrongdoing in the approval of the contract. The company continued its activities, nonetheless.



More than 100 employees of the TMO have been halted from their activities with around 15 arrest warrants issues to date since 2019.

This has led to the closure of the TMO for 6 months, leading to a decrease in the number of car registrations to less than 1,000 in Q1 of 2023.



# 04

## Workstreams

# Short term measures to kickstart the operations of the VRO

In order to analyze and implement solutions as well as understand the problems and possible ways forward for the VRO, the Y4G team undertook work in 3 main workstreams: on-site field work, technology and research.

On-site  
field work



Archive organization  
Surveys

AI and  
Technology



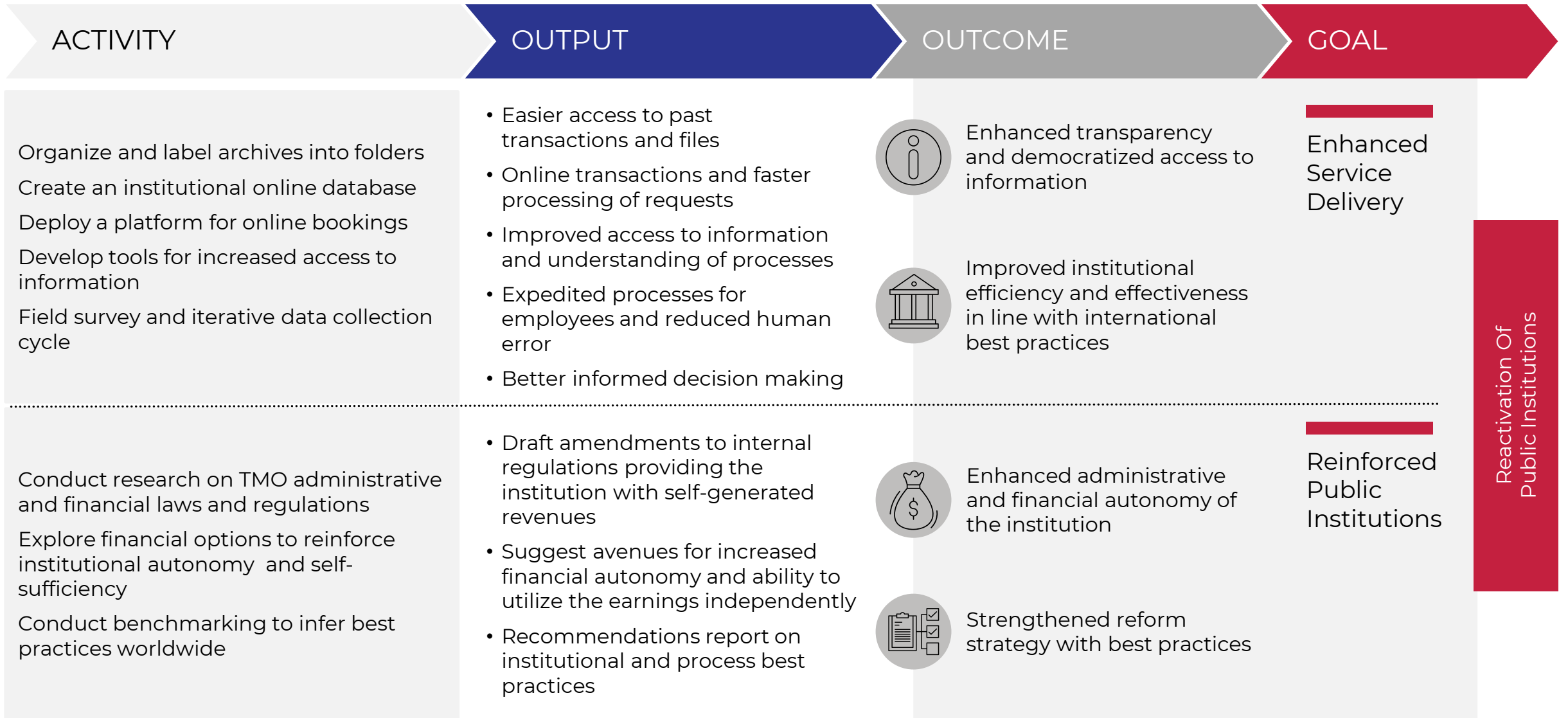
AI Chatbot  
Document Layout Analysis  
Process Digitization

Desk research  
and Analysis



Legal research  
Financial research  
Institution and process  
benchmarking

# Applying the Theory of Change to reform the VRO



Reactivation Of Public Institutions

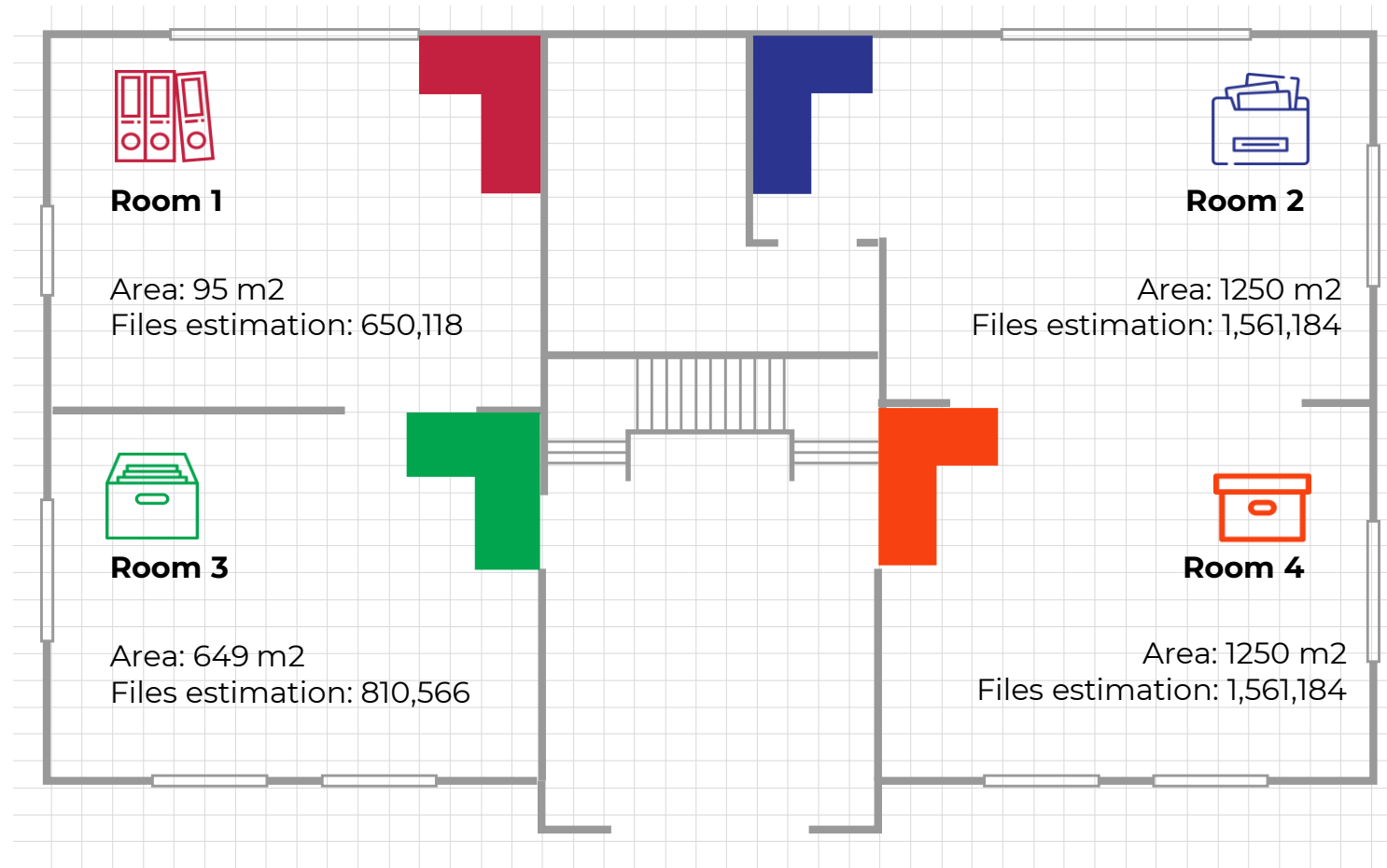
# 4.1

## Nefaa's archival journey

Preserving the Past, Enabling the Future

# VRO's archive journey

Based on the assessment of one of the rooms, projections indicate the storage of approximately **4,543,052 current files** across four archives rooms in the VRO which covers a combined area of **3,244 square meters**. The number of files continues to grow exponentially as every employee produces on average **90 files daily**.







# Student archiving activity

25 students were engaged in the archiving process at TMO that have been compiled after the closures of TMO, followed by data entry with the purpose of identifying pending files and reorganizing the ones that were misplaced. Following the completion of the organization files in 11 weeks, the responsibilities for archiving and digitization were transferred to dedicated personnel at TMO.



87,800

Files arranged



178

Pending files

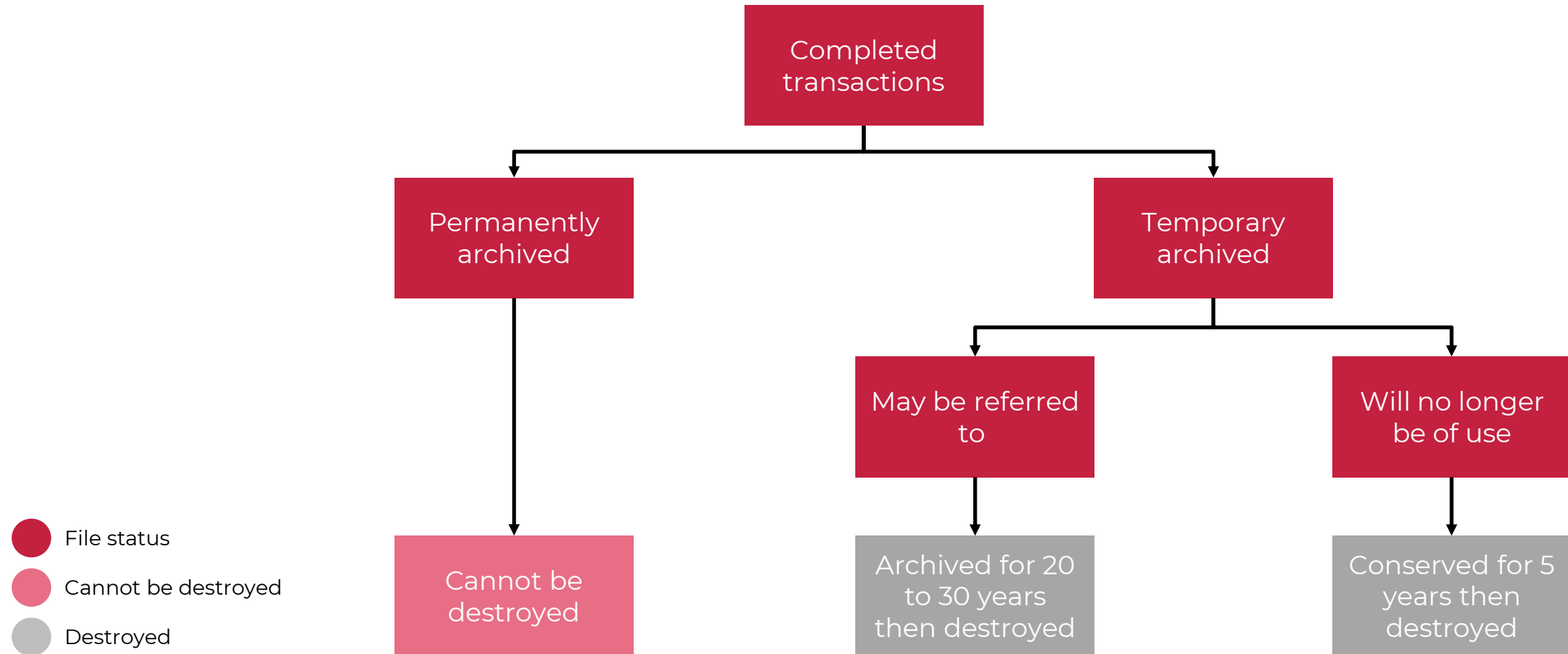


27,818

Data entries

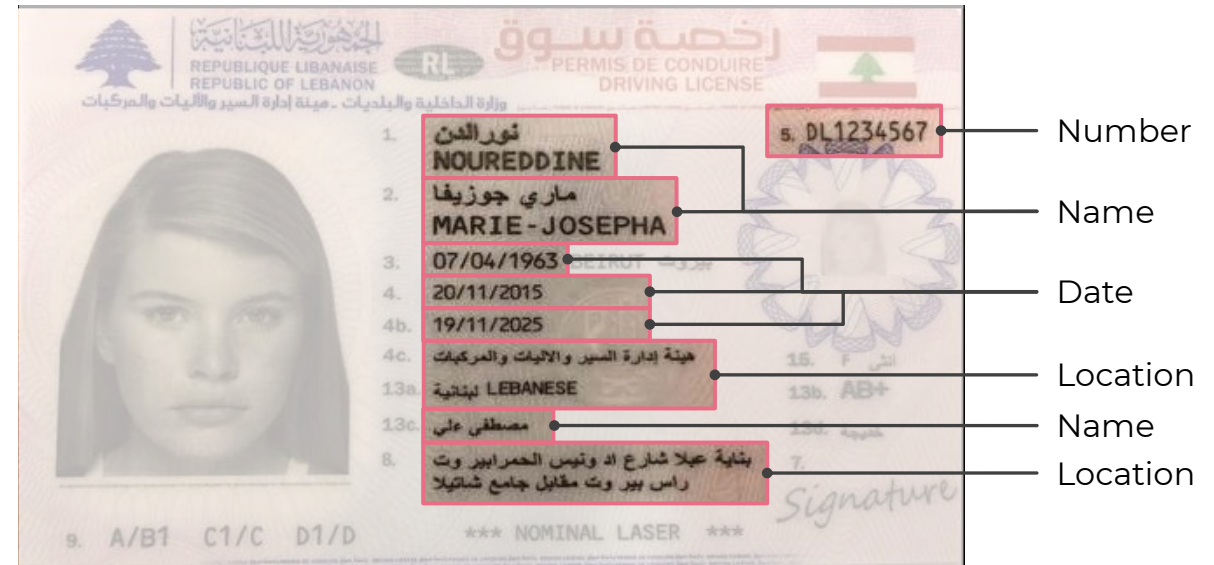
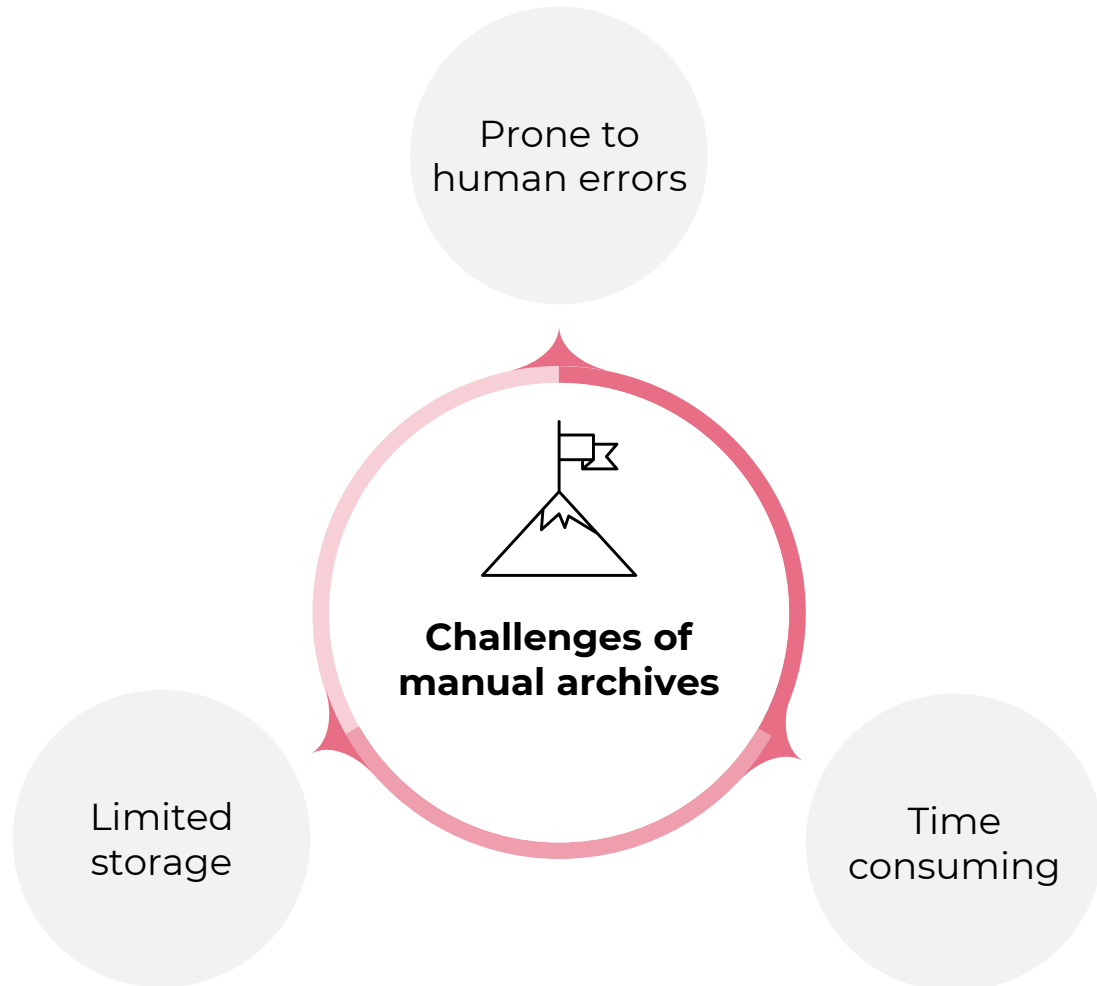
# Status of administrative files

To adopt a digitized approach, the circular 1/79 issued in 2020 authorizes the destruction of specific administrative files after a certain timeframe. Pending files, crucial for transaction completion, cannot be destroyed. Other file types may undergo temporary or permanent archiving, with permanently archived files not being eligible for destruction.



# Efficient archiving via document layout analysis

For the purpose of improving efficiency and accuracy in archiving, a customized tool can be integrated to automate the analysis of layout for Arabic documents during the scanning process.



These challenges can be tackled by a document layout analysis tool which can:

- Accelerate processing, reducing time spent on data entry
- Intelligently categorize documents, improving data retrieval efficiency
- Enhance record management and accessibility, promoting efficient document handling

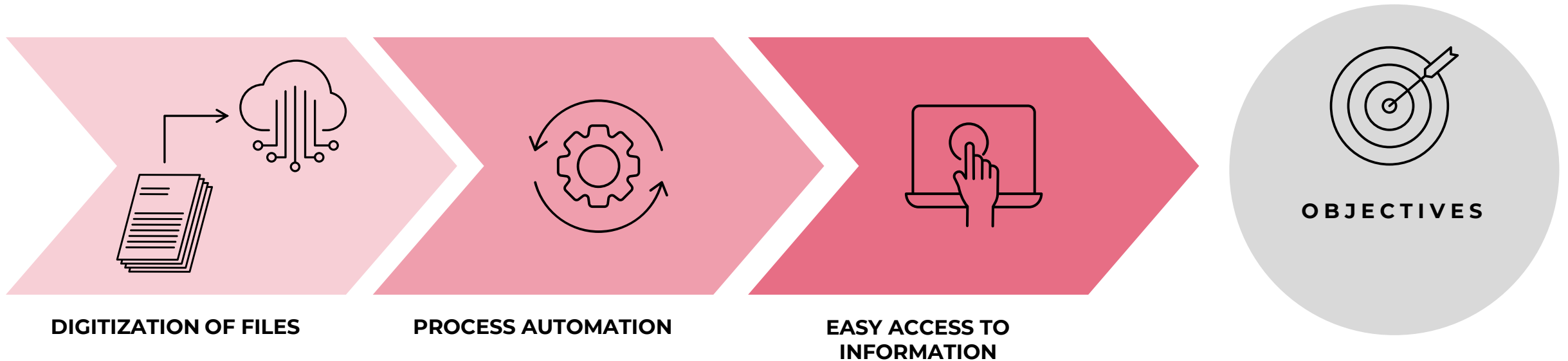
# 4.2

## Process digitization

# Digitization: a targeted approach

The digitization of processes within the VRO quickly emerged as essential to tackle problems of efficiency, bribery, middlemen, access to information and limited human resources. Targeted interventions were initiated to alleviate VRO's difficulties.

The technical solution guarantees a concerted and dedicated approach to achieve three primary objectives:



# Digitization: key features

Key features introduced in the digitization include the automation of workflows, the integration of third parties on the platform, real time coordination and communication among stakeholders, and a user-centric design.

Features towards quick and efficient processing of procedures include the following:

## Automated Workflows

The establishment of automated workflows help streamline tasks, boost efficiency, and ensure consistent, optimized processes.

## Integrated processes

The integration of relevant third parties into the platform provides for a centralization of efforts and activities within the process.

## Real-Time communication

Through notifications and updates, we ensure that citizens, companies, and administrators are consistently informed about their tasks' progress.

## User-Centric Design

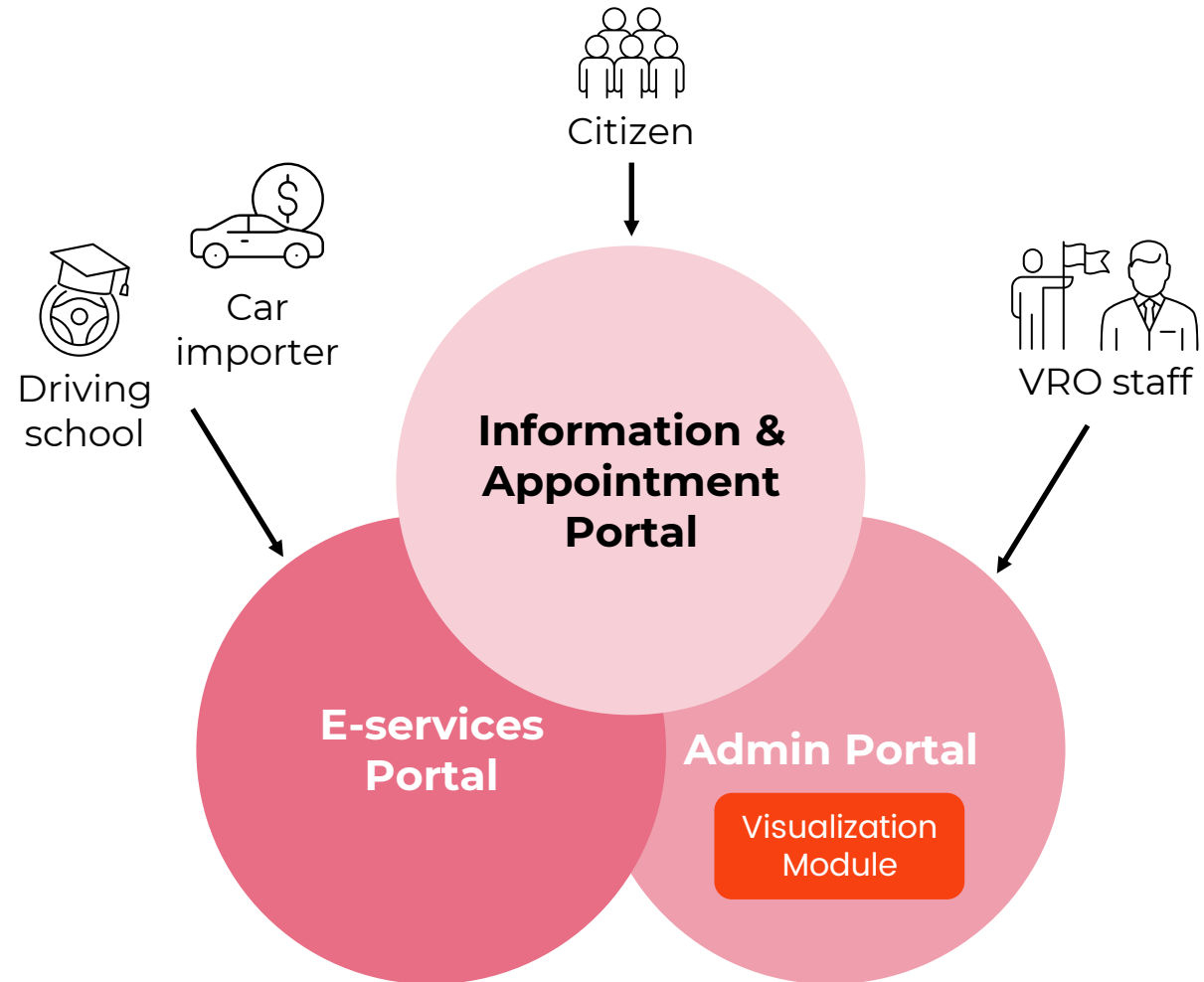
The platform's design prioritizes user-friendliness, making it easy for citizens and interested third parties to navigate and accomplish tasks.

# Digitization: a systems approach

While the Lebanese citizens are at the core of our focus, our multi-module web application also caters to government employees and third-party organizations whose work depends on the VRO.

The development of the system is done with a vision to provide the possibility for other citizen serving public institutions to plug into their own services. It is structured around three key stakeholders:

- 1 It provides citizens with access to their required information and the possibility to book their appointments.
- 2 It provides third parties, such as car importers and driving schools, with their own access to facilitate their service delivery from the VRO.
- 3 It provides public sector employees with the possibility to manage services, respond to requests and analyze the data from their activities.





# User management: groups and permissions

User groups are aggregates of users who engage in similar tasks and are assigned distinct permissions. These groups provide a structured way to manage user access rights and ensure that users with similar responsibilities have appropriate levels of access to system resources.

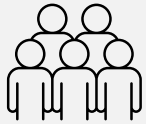
## Group 1: Users

## Group 2: Admins

Who



Driving Schools



Citizens



Car Dealers & Importers



VRO Admin



VRO Staff

What

- Authenticated log in
- Manage own info
- Submit applications and documents
- Book appointments

- Authenticated log in
- Manage internal resources
- Validates applications and documents
- Configure appointments

Why

- Clearer process flows
- Fewer on-site visits
- Better visibility on transactions

- Paperless processes
- Less risk of manual errors
- Better visibility from Management

# Appointment booking portal

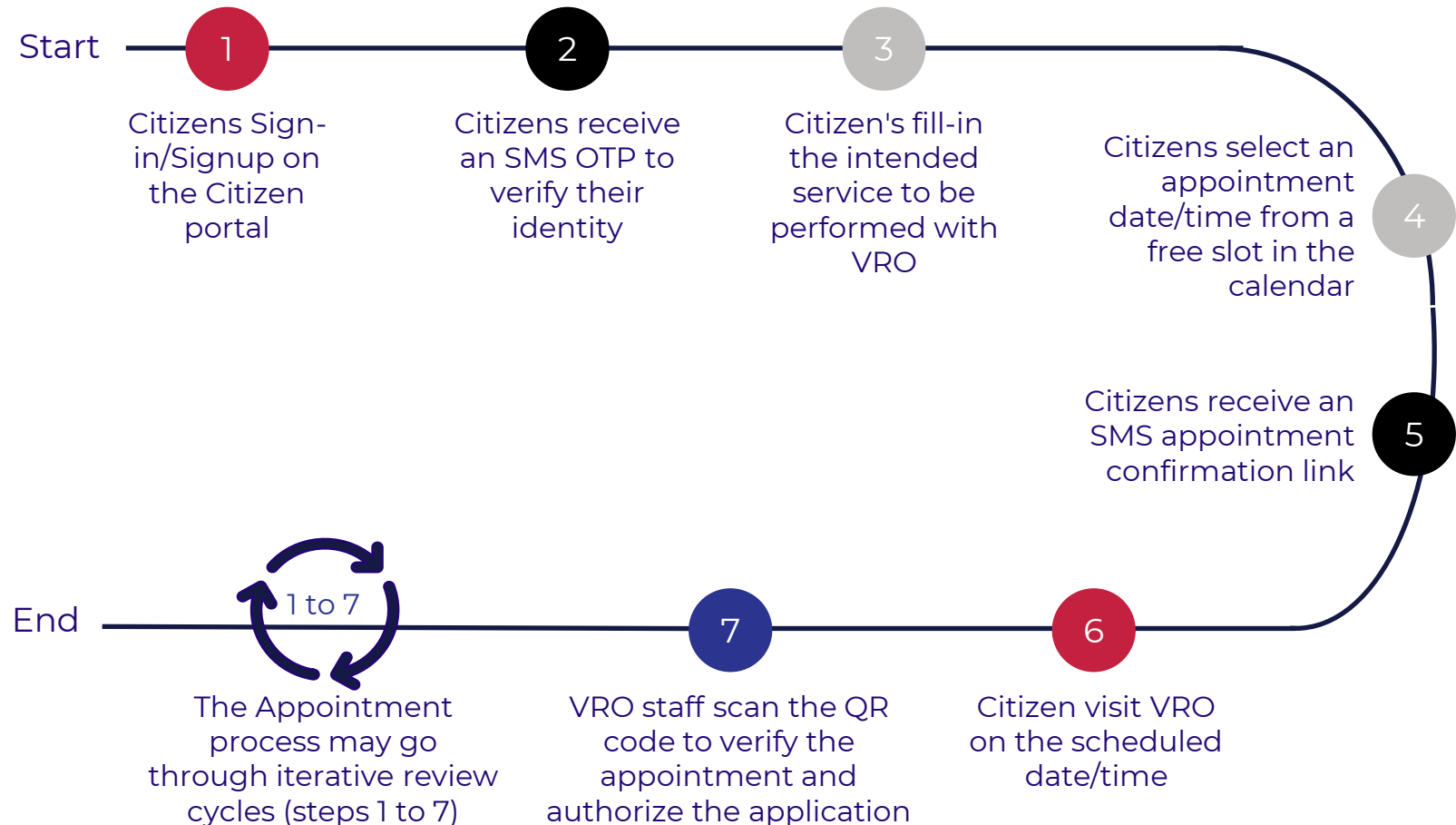
The appointment booking portal provides citizens with the possibility to specify the date and time of their visit to reduce their waiting times while allowing the VRO to manage its own workload on the day to day.

## Process description:

Using our platform, citizens log in to their profile; from there, they can pick a service or transaction, fill in the necessary information, and select a desired date and time. They then receive an SMS notification with a link to a QR code, which will be scanned at the gate to validate their booking.

## Process benefits:

- Secured Authentication
- Organized queues & reduced crowds
- Clearer processes
- Less on-site visits per person
- Less pressure on staff



# Driving school e-services portal

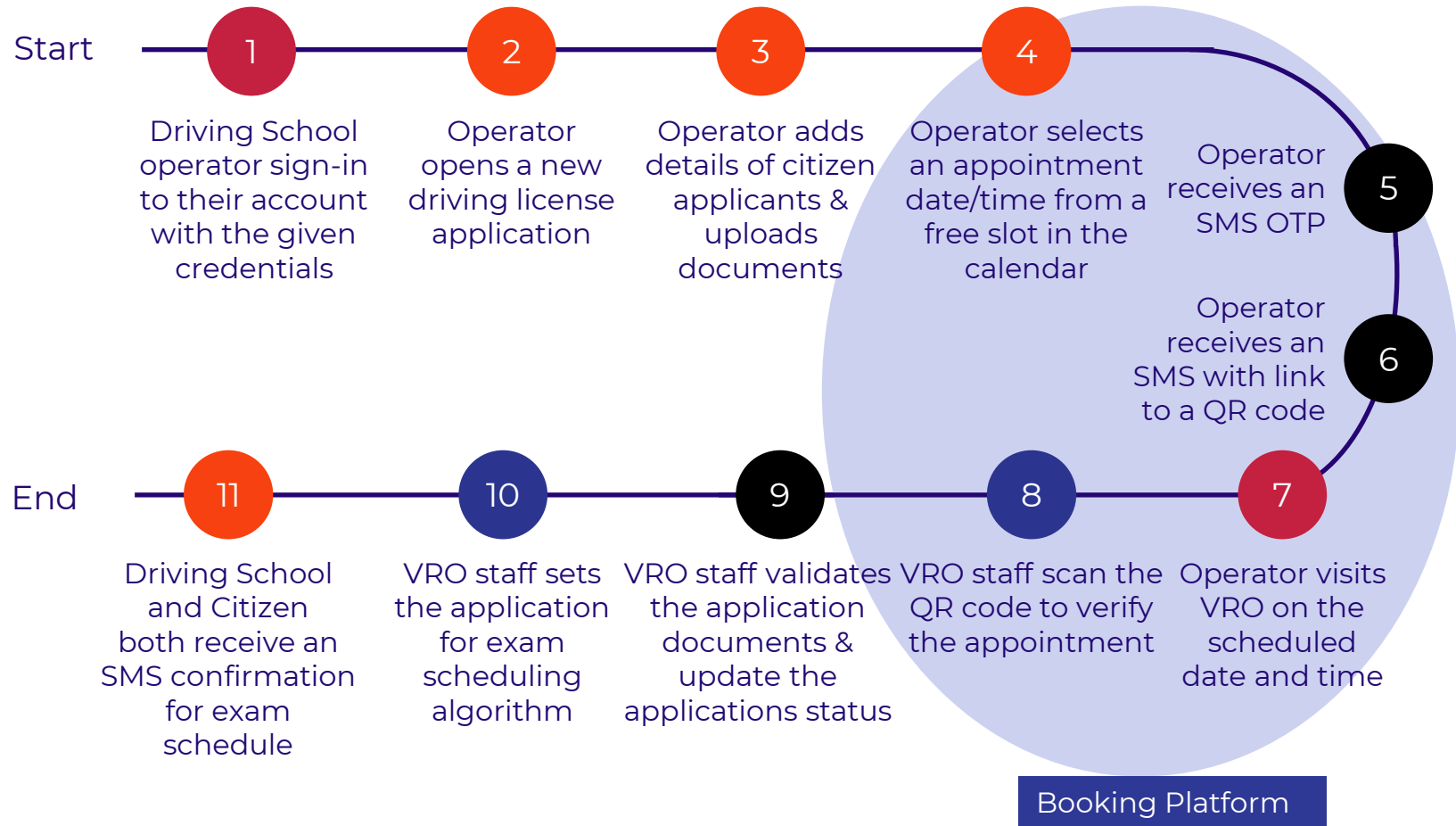
The system integrates driving schools as one of the essential third parties in interaction with the VRO as it facilitates citizens' processes in acquiring their driving license. The integration alleviates pressure off of VRO and reduces the number of citizen visits.

## Process description:

Building on the booking system, we are creating a portal for Driving Schools to apply for driving exams fully online. After filling in applicant information and uploading all necessary documents, they can book an appointment to pay the fees and finalize the applications. Eventually, upon validation by the VRO, the applicant and driving school receive an exam schedule confirmation.

## Process benefits:

- Paperless operations
- Transparency and communication
- More effective processes
- Enhanced experience
- Fair algorithm to schedule driving exams



# Car dealerships e-services portal

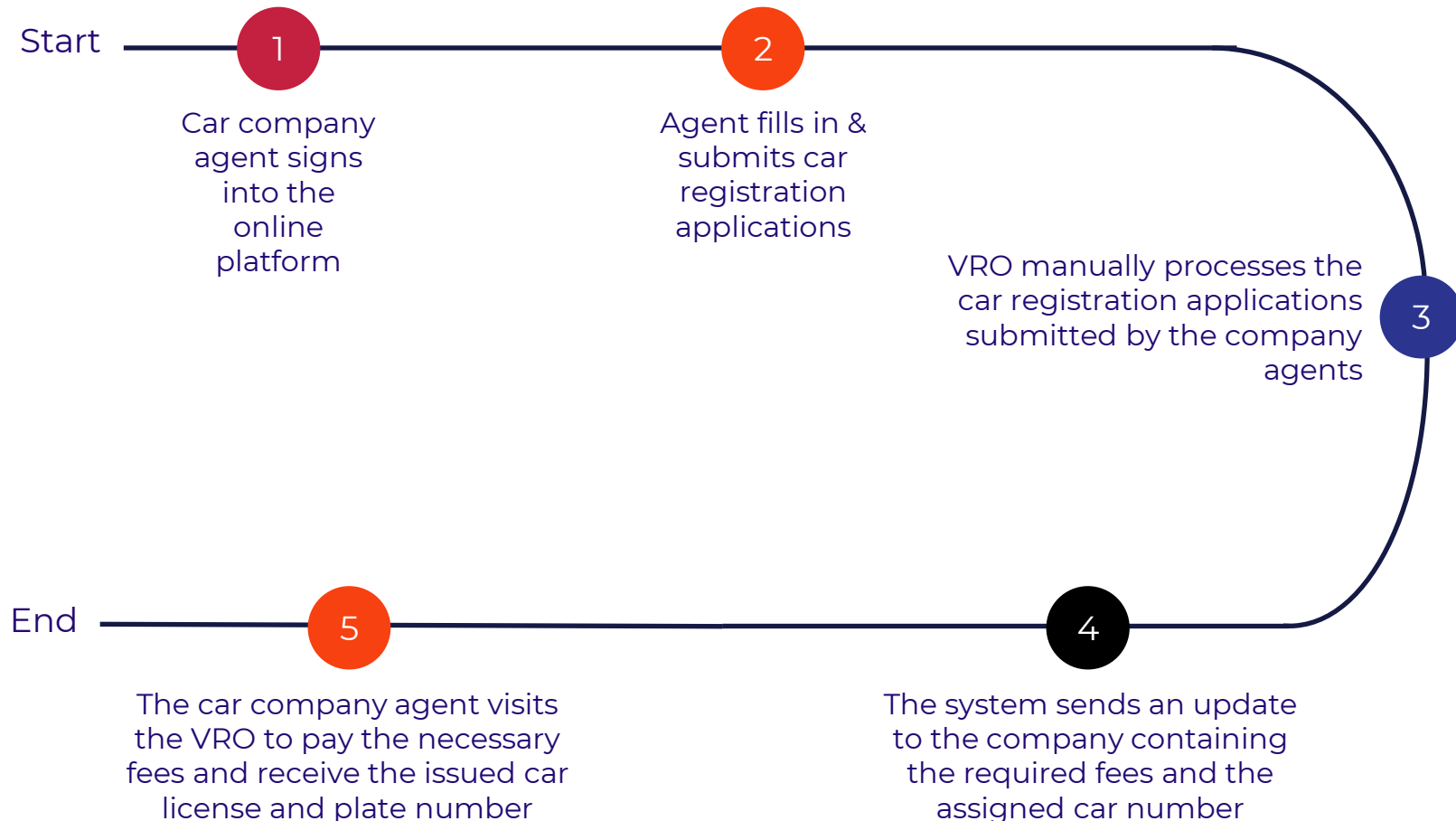
This process also alleviates administrative burdens faced by car dealerships, another essential third party, in the process of registering new cars through an online process and only one needed site-visit.

## Process description:

Car company logs into the online platform and submits car registration applications. VRO employees then review and process the applications manually. Once approved, the system notifies the company of the fees and assigned car number, after which the agent pays the fees and collects the car license and plate number in person at the VRO.

## Process benefits:

- Real-Time Updates and Notifications
- Faster Vehicle Clearance
- Reduced Paper Usage
- Digitalized Vehicle Registration and Documentation

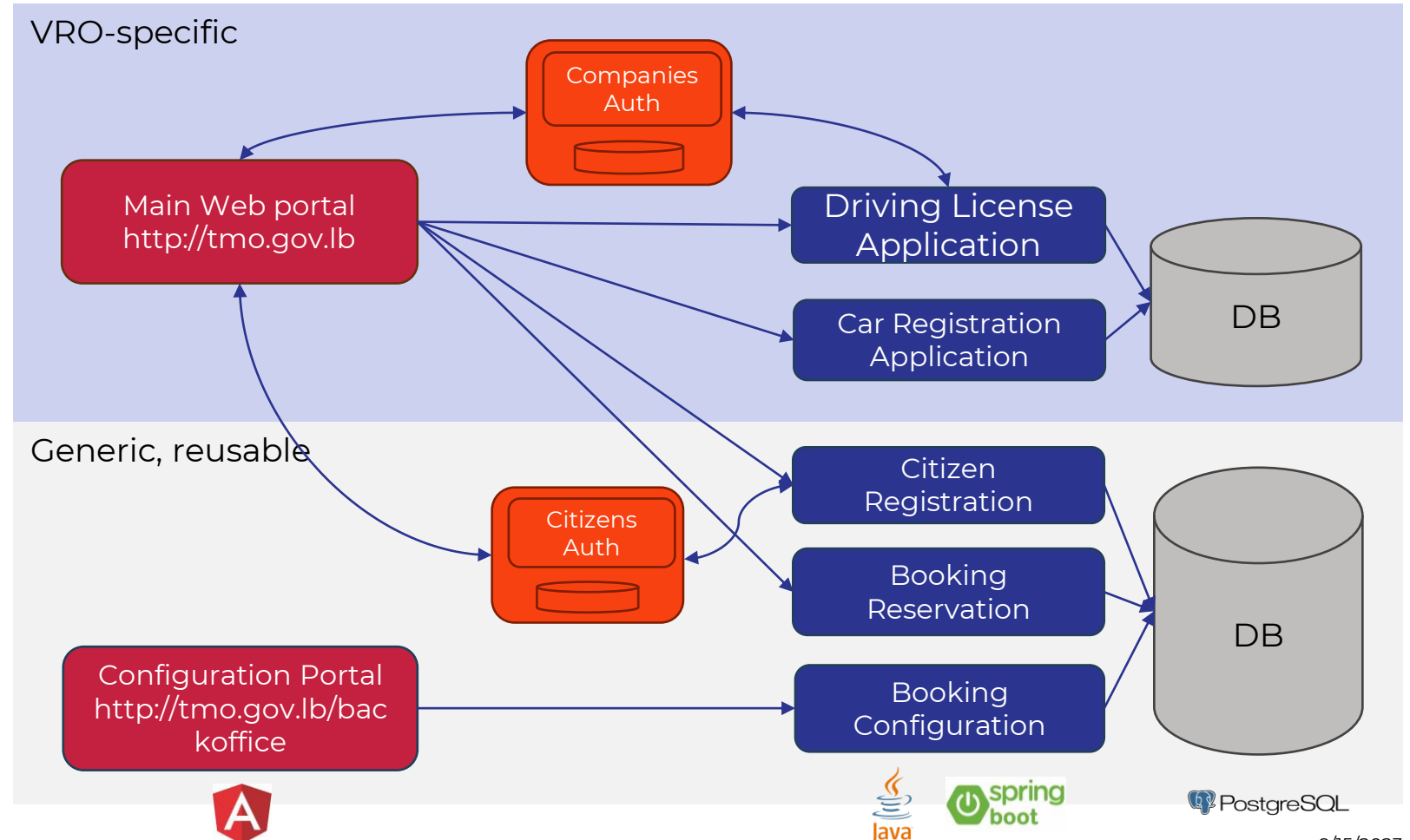


# Digitization: A Microservices Architecture

A microservices architecture enhances scalability through independent component scaling and promotes stability by isolating failures. It also enables seamless integration of specific services in different contexts, ensuring adaptability and reusability without disrupting the overall system functionality.

The adopted microservices architecture follows the principle of assigning one service to one purpose. This approach enables simple scaling to manage increased traffic and effortless redeployment for bug fixes or feature upgrades without disrupting other functions. Additionally, certain services can be repurposed across various systems, while data isolation enhances security by compartmentalizing information.

This architecture also provides the capacity for other public sector organizations to reutilize parts of the existing system for their own services and specificities.



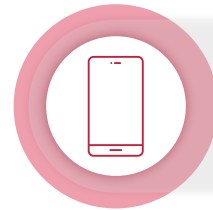
# Digitization: way forward for the VRO

Besides the digitization of additional services and processes, the VRO's portal can benefit from essential features and characteristics that can help in further facilitating proper public service delivery.



## ONLINE PAYMENT

Online payment integration ensures that transactions are conducted securely, using encryption and industry-standard security protocols to protect users' financial information, reducing the need for users to visit physical locations.



## MOBILE APPLICATION

Creating a dedicated mobile app can provide users with on-the-go access to our platform, enabling them to schedule appointments, track progress, and receive notifications directly from their smartphones.



## DIGITAL SIGNATURE

With e-signatures, the need for physical presence or manual handling of paperwork is eliminated. This speeds up processes and reduces administrative delays.



## DIGITAL CITIZEN FILES

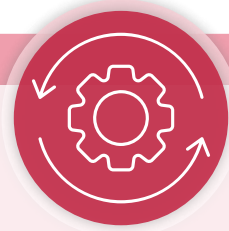
Digitized files (e.g., Digital driving license) are easily accessible from anywhere, eliminating the need for citizens to visit physical offices for inquiries or document retrieval.

# A common vision to be adopted across the public sector



## SCALABILITY

- Using micro services-based architecture to ensure stability of the system.
- Creating standardized components such as booking appointments and uploading documents to be used across the platform.
- Elasticity in load handling on the system.



## SUSTAINABILITY

- Handover of software and source code to the institution.
- Training of system administrator and users to ensure continuity of the system.
- Supply staff with necessary documentation such as user manual, video guide, etc. to ensure possible onboarding going forward.



## INTEROPERABILITY

- Use standard protocols for communication between systems.
- Define and agree on consistent data formats across institutions.
- Design and develop APIs to ensure easy integration of systems.
- Have standardized authentication mechanism for employees, citizens and specific stakeholders.

# 4.3

## Access to information & chatbot



# Access to information: problems and struggles

In the early days of Nefaa Y4G project, before launching the VRO platform, a survey brought to light a common challenge. Citizens often made three or more visits to complete their services. This was due to the lack of information and understanding of the procedure requirements, as well as the inefficient processes in the organization.

## LACK OF INFORMATION



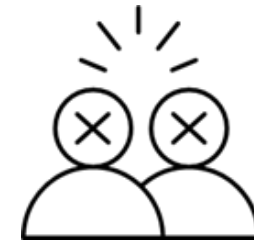
**42%** of citizens were unaware of the required documents and Nefaa's operating days and hours.

## NEFAA NEWS



**32%** of citizens acquire information about Nefaa through news outlets, friends, or WhatsApp groups. This highlights lack of access to information.

## LONG QUEUES



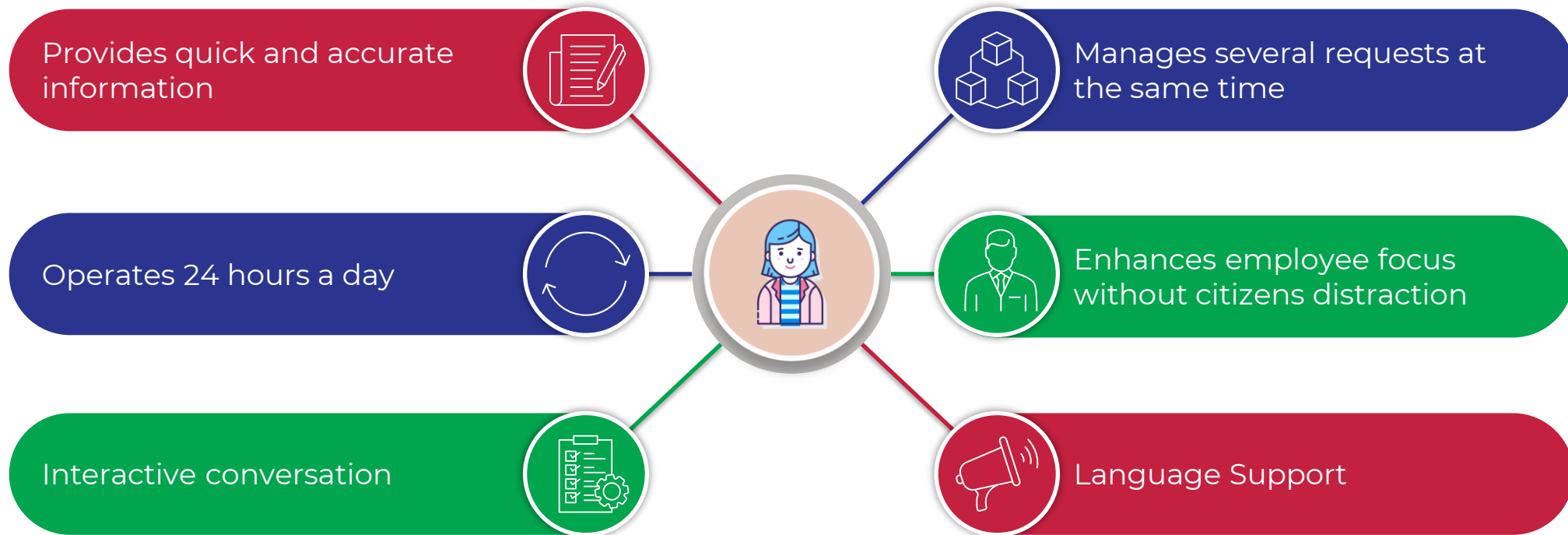
**27%** of people would come to Nefaa and wait in long queues for hours, uncertain if they would be able to complete the service they need.

# Access to information: AI driven chatbot

Chatbot's main objective is to provide citizens with digital access to information, it acts as an intelligent assistant, effectively responding to citizens questions just like Sam and Sara about Nefaa services and simplifying their service completion process.

## What is Chatbot?

Chatbot is a computer program that uses artificial intelligence to process human language such as citizens' questions and generate automated responses.



# Chatbot: further development roadmap

The chatbot will be equipped with these features to improve its functionality and accuracy, making it a valuable tool that can be applied to other public sector platforms.

## Multilingual support

Integrating Arabic and English languages to support diverse citizens.

## Speech to text

Receiving vocal questions in addition to textual ones.

## Feedback mechanism

Incorporating a thumbs-up and down button along with a feedback box.

## Chatbot improvement

Providing the chatbot with the ability to understand more complex and specific questions.

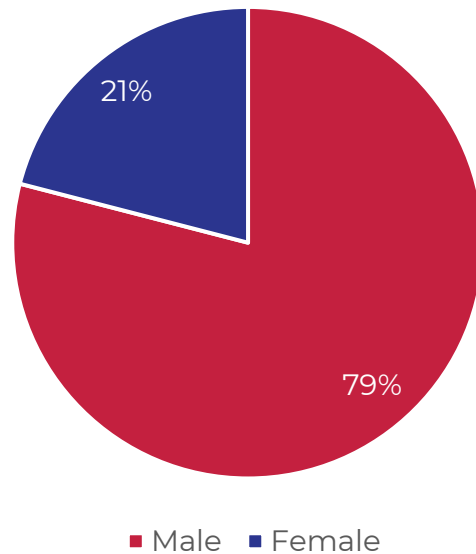
# 4.4.4

## Survey study & statistics

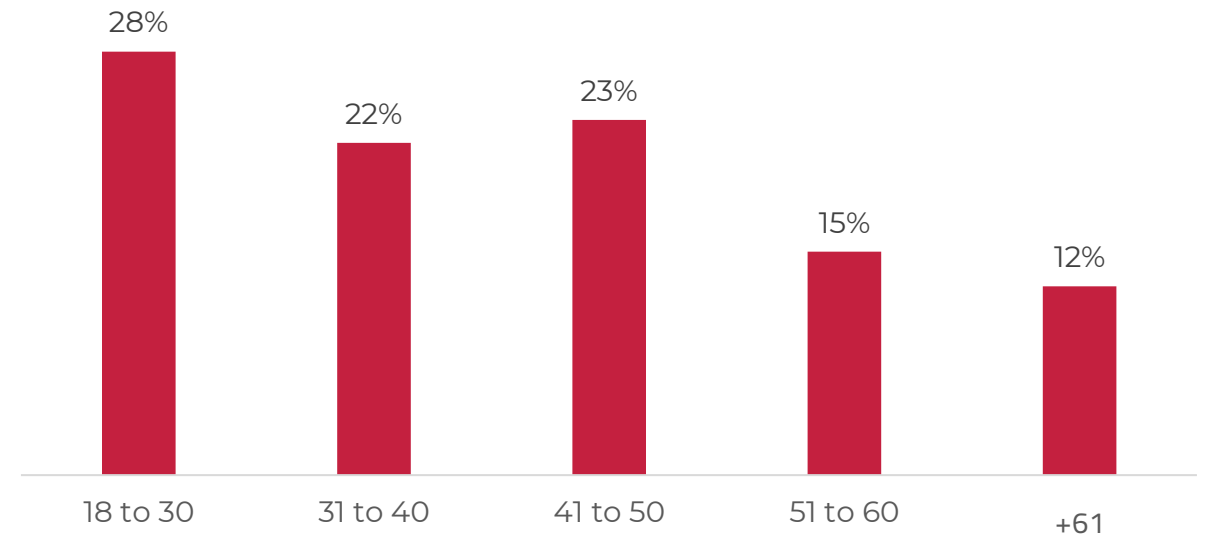
# VRO's visitors: age and gender

A weekly citizen satisfaction and perception survey was conducted in TMO over the course of three weeks. This survey aimed to capture citizens' perceptions both before and after the implementation of the e-platform. To ensure the survey representativeness, a randomized sampling approach was employed, resulting in a total of 267 surveys completed.

Gender of respondents



Age distribution of respondents

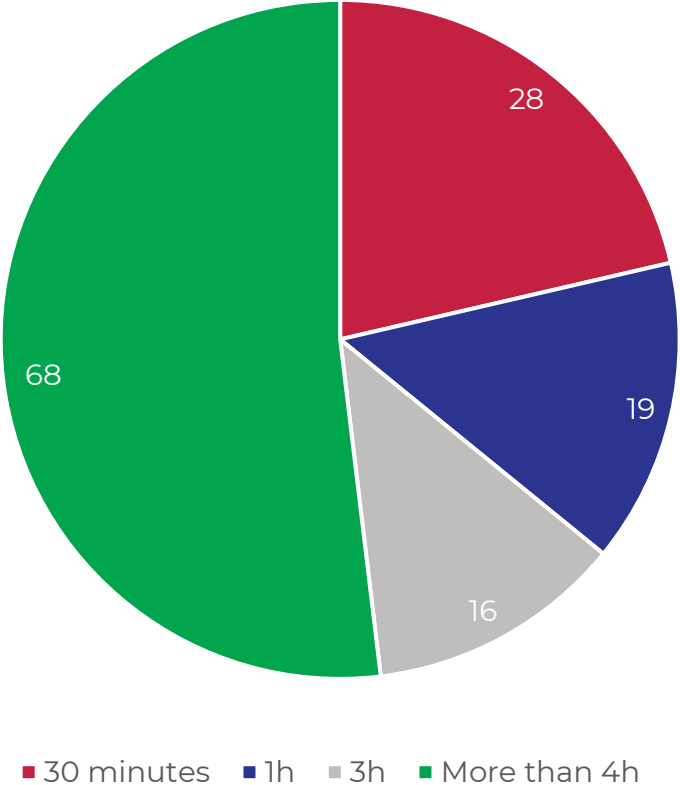


The majority of the visitors to the TMO are male. 50% are below 40 years old. The TMO effectively represents the first point of contact for Lebanese youth with public institutions which influences their perception of public authorities.

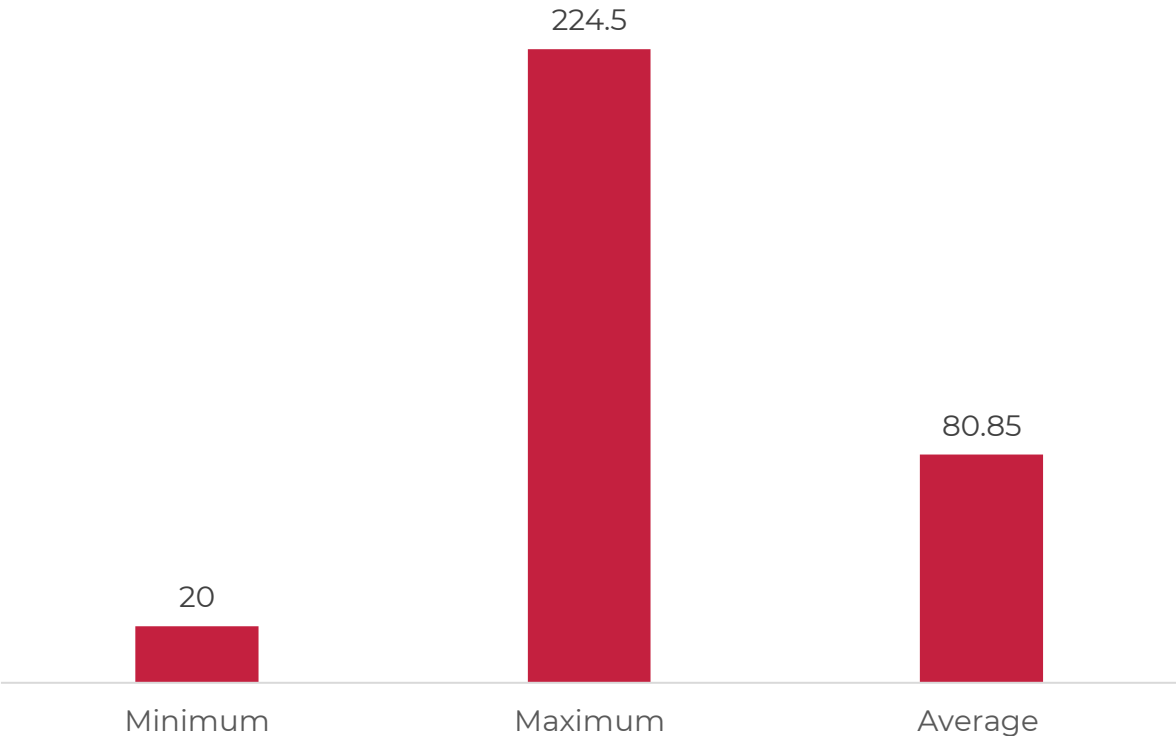
# Digitization to the rescue: reduced waiting time

The introduction of the TMO appointment booking platform reduced transaction wait times significantly, from over 4 hours to about 1 hour. This demonstrates a more efficient process and ensures that visitors can arrive at the scheduled appointment time instead of arriving excessively early and hoping to eventually complete their transaction.

Waiting time before the booking platform



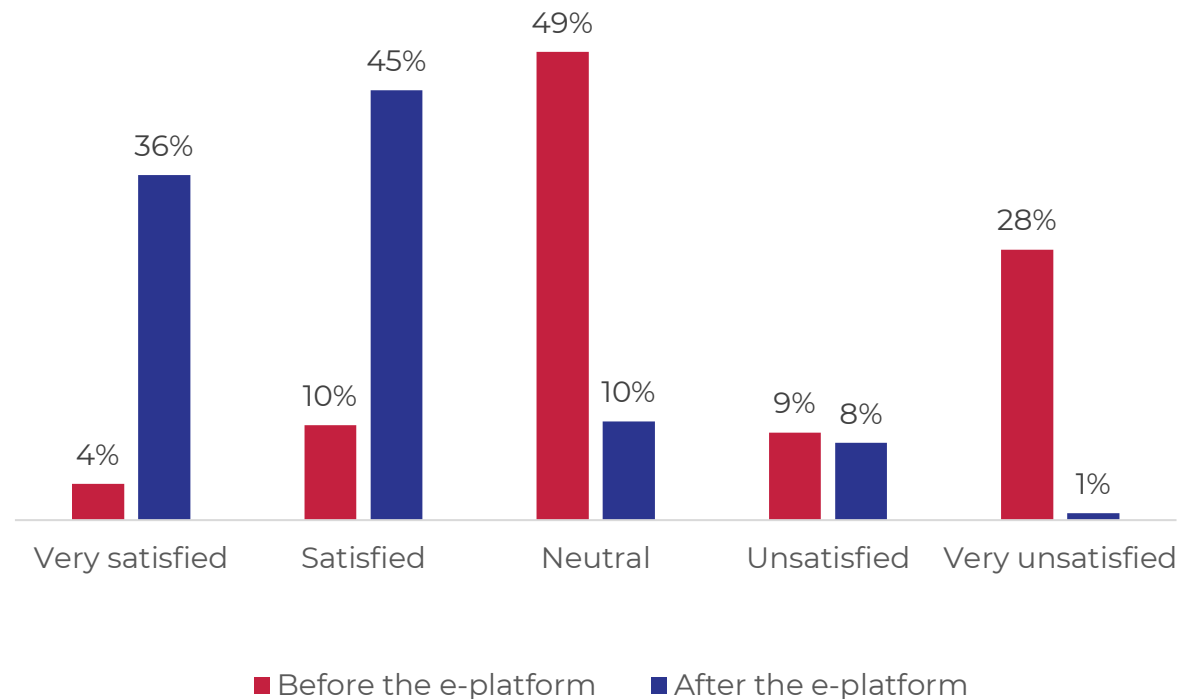
Minutes till the end of the service after the booking platform



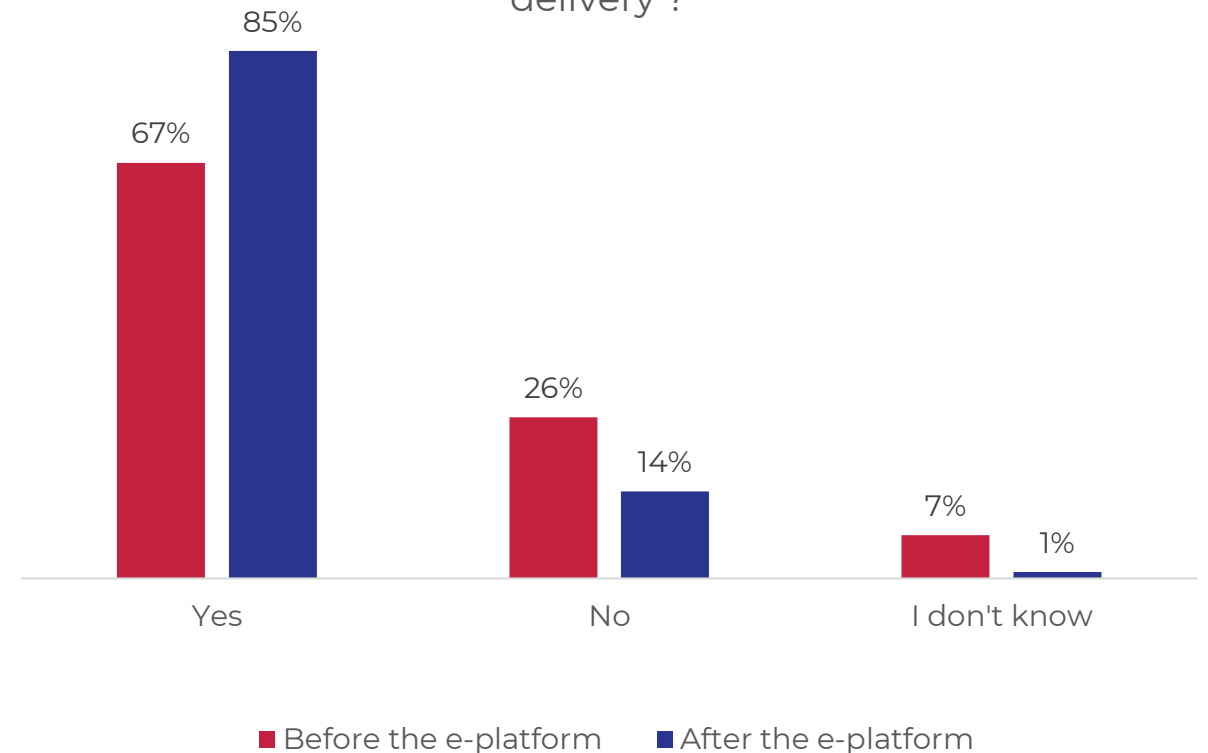
# Digitization to the rescue: improved satisfaction and positive expectations

Satisfaction rates have significantly improved: before the e-platform, only 4% were very satisfied, compared to 36% after. On the other hand, dissatisfaction dropped from 28% before to just 1% after. Moreover, 85% believe the e-platform can enhance service delivery.

Satisfaction of the respondents before and after the e-platform



Do you believe an e-platform will improve service delivery ?



# 05

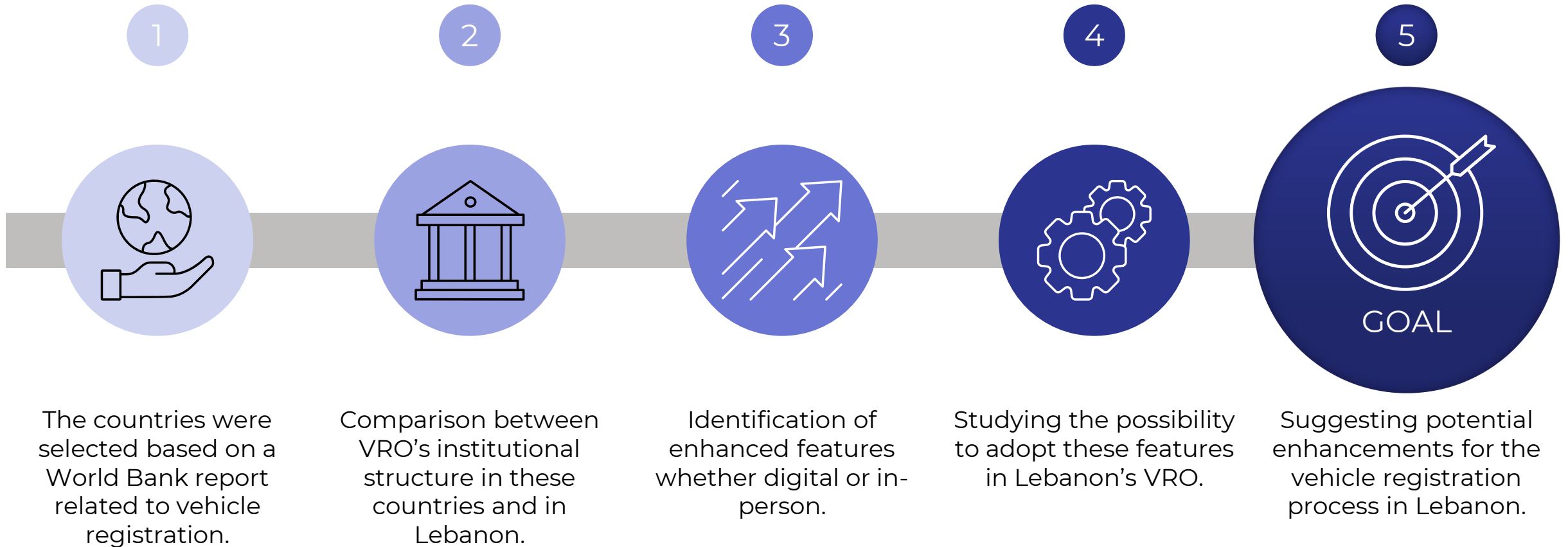
## Benchmarking

Best practices



# Uncovering the roadmap to efficient vehicle registration

In order to tackle the different aspects of the VRO, a benchmarking was conducted to explore this complex landscape. The purpose of the study is to understand the institutional structure and process of TMO in other countries to enhance the vehicle registration process in Lebanon.



# Roaming roads: A look at vehicle registration diversity

## Institutional Organization

## Process Digitalization



Dubai

Authority within the Government

Digital and In-Person process available



Qatar

Department within the Ministry of Interior

Hybrid: it starts digital then in-person



Singapore

Statutory board under the Ministry of Transport with partial financial independence

Hybrid: it starts digital then in-person



Belgium

Department within the Ministry of Transport

Digital Process



Nigeria

Authority within the Government with partial financial independence

Digital (the car plate is received in-person) and In-person process available



Estonia

Department within the Ministry of Economic Affairs & Communications

Fully Digital Process

# Ultimate takeaways

Based on the benchmarking, these are the most prominent and useful features that can be adopted to improve the current processes to ensure a more effective service delivery.



## ESTONIA

Estonia introduced a flagship contactless and paperless process for vehicle registration; positioning the country as best in class.



## DUBAI

Dubai digitized most of the process and introduced an e-signature system. The country created VIP services for time saving purposes. These revenues feed directly into the institution's own accounts. Dubai also provides service packages for the elderly and people with disabilities.



## SINGAPORE

Singapore gives citizens the responsibility of personally fixing the license plate on the vehicle within 3 days; non-compliance is sanctioned by fines.



## QATAR

Qatar has a hybrid service model: both online and offline. They integrated a digital system while preserving some in-person steps.



## NIGERIA

Nigeria established a fund financed by imposed levies and fines as a form of compensation on companies that exhaust the country's natural resources and pollute the environment.



## BELGIUM

Belgium delivers a Certificate of Road Adequacy to allow owners of vehicles that went through inspection but were not yet registered on the road.

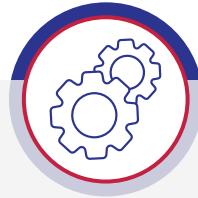
# Stepping stones for change

Lebanon's dependence on traditional procedures and paperwork makes it more difficult to integrate the processes of the different states explored before. Hence, it is crucial that integrated procedures are tailored to fit and serve Lebanon's capacities.



Create an e-platform where citizens can :

- A. Upload the required documents prior to the appointment.
- B. Offer the option of e-payment (OMT or by credit card).
- C. Conduct the entire process online.
- D. Deliver the license plate straight to the house. This would help with moving towards the adoption of Estonia's cutting-edge paperless system.



Deliver a Certificate of Road Adequacy – as in Belgium – to allow owners of yet-to-be-registered cars on the road.

Consult with the private sector to devise a new vehicle inspection system and to train employees.

Recruit expert employees to fill in the open slots which will help operate on more services.

Create provisions for the elderly and for people with disabilities, as inspired by Dubai's service packages.

Include the citizen in the process and limit contact with the employee to avoid bribes and to make him/her feel responsible.



Create a financial plan that allows TMO to create its own budget plan and therefore become more financially independent.

Establish VIP services that can help make extra money for TMO's budget.

Adjust the fees to match the dollar's exchange rate and seek donations from different sources.

# 06

## Recommendations and conclusion

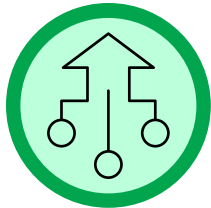
# Preliminary recommendations for the way forward (1/6)

Build the internal capabilities of the institution, in terms of human and financial resources, as well as systems and procedures, so that it is capable to either deliver services itself, or to ensure adequate monitoring and control over contracted third parties.

## Institutional capacity building



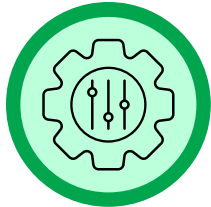
Redefine the role of staff and functions in light of the new functionalities. Fill remaining vacancies with the qualified candidates and enhance the skills of existing employees.



The introduction of digital services calls for the optimization of the processes, structures and human resource capabilities.



Employees will need to manage the digital system, verify the digital requests and assist individuals with their processes.



Oversight, monitoring and control processes will need be set-up if the institution continues to outsource its service delivery to third party suppliers.

# Preliminary recommendations for the way forward (2/6)

Explore avenues to improve the capacity of the TMO to deliver better and more efficient services to citizens, by tapping into additional sources of self-generated revenues that can be directed to finance several investments and projects and build the institution's own cadre and employees' capabilities.

## Building the TMO's financial capabilities

Article 10 of the General Regulations for Public Institutions disposes that the Board of Directors has the authority to approve new financial and investment regulations. These regulations define the self-generated revenues of the institution, their designated purposes, and the manner of their management within the investment budget.

## Ideas that TMO can explore to generate additional revenues

### 1. Leverage existing assets

- Rent existing real-estate
- Rent display space (walls, boards, website, social platforms...) for advertisements (car importers, car showrooms, spare parts suppliers...)
- Grant a private party the right to operate a cafeteria
- Etc.

### 2. Develop and sell new services

- Set up an e-trading platform where individuals can sell their plate numbers against commission fees for using the platform.
- Provide on-site initial inspection visits to car importers and dealers.
- Create a network of approved technical inspection centers from the private sector (against an annual fee). This could require new and/or amended laws and regulations as well as institutional capacities to monitor activities.
- Etc.

# Preliminary recommendations for the way forward (3/6)

Explore avenues to improve the capacity of the TMO to deliver better and more efficient services to citizens, by tapping into additional sources of self-generated revenues that can be directed to finance several investments and projects and build the institution's own cadre and employees' capabilities.

## Building the TMO's financial capabilities (*cont'd*)

### Approvals, oversight and transparency

- The modification of financial and investment regulations by the BoD remains contingent on the approval of the MoIM, its tutorial authority, and that of the MoF.
- The investment budget would include the details of the projected use of funds.
- The fund would still be under the oversight of the MoF's assigned Finance Controller and oversight agencies.
- The fund would feed into a separate account at the Central Bank, that the TMO would have the right to manage.
- For transparency purposes, in addition to credible and regularly published external audits, the TMO could publish on its website the monthly movements of the account, listing amounts, along with the origin and use of funds.

## Establishment of procedures

1

### Establishing an investment system and amending internal regulations

2 courses of action are available to the TMO:

1. The BoD amends its financial statutes and seeks an opinion from the Committee of Legislation and Consultations at the Ministry of Justice. If approved, the amended document is sent to the Minister of Interior and Municipalities for approval, and then to the Minister of Finance - **OR**
2. The BoD amends the statutes and sends them to the Minister of Interior and Municipalities who seeks the opinion of the State Council. If the latter issues a favorable opinion the MoIM then sends the amended statutes to the MoF. Approval of the civil service board is mandatory for the any modification to employee regulations.

2

### Budget amendment:

Include provision in the next fiscal year budget law: "The entity shall have self-generated revenues consisting of..... The resources of the investment fund are deposited in its dedicated account at the BDL."



# Preliminary recommendations for the way forward (4/6)

Introducing digital services needs to continue within the TMO in respect of governance principles alongside concerns of efficiency and cost-saving. While the idea of fully digitizing old files in the archives is tempting, this is likely to require tremendous efforts, time and costs.

## Digital Transformation

- Continue to digitize until eliminating contact between civil servant and citizens in order to prevent bribery and petty corruption.
- Enhance accessibility, user-centricity and adaptation to the extent possible to the digital literacy of an average users.
- Integrate seamlessly with third parties (such as driving schools, car importers and relevant public institutions such as customs, personal status, and ISF) involved in the processes.
- Embed by design privacy and security of the data. The protection of this information from leaks is necessary to maintain citizen trust in services.
- Provide the TMO with direct access to the software and the data it is collecting as necessary for the performance of their activities. This is crucial to ensure public ownership of the system and avoid reliance on the private sector.

## Archiving and File Management

- The scanning of files would require tremendous efforts, time and costs. While this could be a strategic undertaking, these specific files are rarely referred to and could remain stored and unchecked for years on end. Therefore, a digital catalogue that references these files and indicates their location needs to be put in place.
- It would be more strategic going forward to require users to scan their own documents. The TMO would then proceed with the compilation of a digital archive of the uploaded documents.

# Preliminary recommendations for the way forward (5/6)

TMO executive authority needs to set a strategy and a baseline for KPIs. It should also introduce good governance in its procurement practices in line with the new legislation.

## Strategy

Develop the TMO's strategy with clear objectives and key milestones and set a baseline for key performance indicators, against which to benchmark results on an annual basis

Assess the need for procurement to make informed decisions about what to keep internal and what to outsource; ensure that this strategy covers professional services such as the development and maintenance of digital system, operations such as technical control, vehicle registration..., as well as the provision of merchandise, such as smart cards for driving license, safe plates...

## Procurement

Abide by the applicable public procurement law no 244 issued in 2021.

Bring relevant expertise to the internal committees responsible for preparing terms of references for launching public tenders.

Build on lessons learned from previous mistakes made in earlier procurement / outsourcing contracts, especially for digital development / operation systems:

- Clearly designate the owner of the system, the code, the database, and the system administration
- Include safeguards and penalty clauses in contract agreements against delays in delivery, system failures, shutdowns, etc...
- Include frequent quality control assessments over the contract duration
- Acknowledge in the contract the importance of frequent auditing and reporting

# Preliminary recommendations for the way forward (6/6)

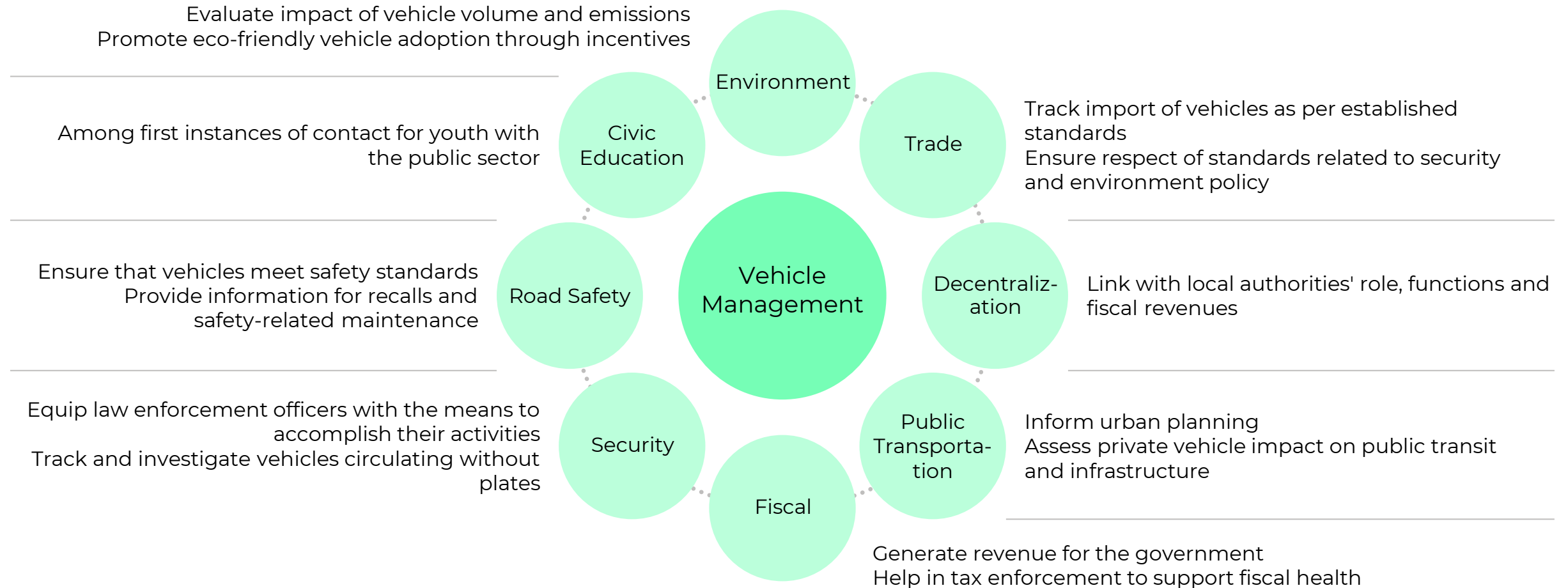
Governance and oversight remain critical to enforce integrity, transparency, and accountability, with different layers of auditing, including an internal unit, oversight institutions, civil society and public opinion.

## Governance and oversight

- Seize this opportunity to set a precedent where employees who have been proved guilty of corrupt practices to not come back to the institution.
- Activate the role of oversight authorities such as the Central Inspection in its engineering, financial, administrative and performance audit.
- Activate the role of the Court of Accounts for financial oversight.
- Set up an internal audit unit.
- Continue to activate the parliamentary commission to control activities of the public administration.
- Activate civil society organizations to control activities of the public institution.
- Work towards eliminating the reliance on middlemen (semsar) and towards the suspension of their permits.
- Explore alternatives to reintegrate these middlemen in the productive economy.

# Vehicle management at the intersection of policy

In reality, a vehicle management policy is at the intersection of multiple public policy areas. Hence an integrated approach to policy making is needed to prevent undesirable outcomes in all these areas.



# Conclusion

Similar to previous years' editions, 2023 Y4G project in Nefaa, focusing on the VRO specifically, continues to establish the evidence that when several factors are combined, namely the enthusiasm and dedication of youth coupled with fully supportive, responsive and engaged public servants, tangible results can be achieved, and the public trust in the administration can be regained.

Moreover, when improvement efforts are based on solid knowledge and inter-disciplinary sciences that underly the various procedures and services that are performed by a public administration, the reform process is accelerated significantly.

The young students who have undertaken this ambitious project in their short internship at Siren are all very proud to have contributed their best efforts at the service of their country, yet they remain dreadful at the same time: they hope that their efforts will not be wasted, and that the progress made at the VRO will serve as an opportunity to launch an uncompromising reform program that starts by completing the work initiated at Nefaa, and is then rolled-out successively to other public institutions, while building on lessons learned and leveraging the technology developed.

# The Y4G team

Robert Abou Saab  
Noor Akoum  
Linn Ammouri  
Carine Bachir  
Melissa Diab  
Hadi Dika  
Karim El Akhras  
Georges El Hajj  
Sarah El Ghoul  
Lea Ghanem  
Marie-Assine Ghantous  
Perla Hanna  
Rime Ibrahim

Rabih Kaakour  
Nour Kachakech  
Rim Maki  
Michael Mansour  
Maysaloun Mohammad  
Jinan Mrad  
Sarah Najjar  
Mira Nasser  
Fatima Radi  
Reem Saadeh  
Nour Sibai  
Elissa Tabet  
Perla Tannous

In collaboration with Siren team:

---

Rene Abdallah  
Joelle Abi Rached  
Carole Alsharabati  
Karim Chalhoub  
Jana Chazbeck  
Ghada Dagher  
Paula Ghantous  
Mazen Jabbour  
Nour Hachem  
Lynn Hneineh  
Danielle Khaled  
Lyne Mneimneh  
Jihane Tabet  
Sybille Rizk  
Raphaella Soueidane  
Sarah Zahreddine