AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

III.   NAME OF CATEGORY- 'INNOVATIVE USE OF TECHNOLOGY IN e-GOVERNANCE'

1.   **Coverage – Geographical and Demographic** :-

   (i) Comprehensiveness of reach of delivery centres
   → At 16 RTO/ARTO locations, Automated Test Track has been implemented since commencement of the project, while at other locations, work is in progress at various stages. List is attached in annexure - I

   (ii) Number of delivery centres
   → At 16 RTO/ARTO locations, total 37 automated test track for 02 wheelers and 04 wheelers has been implemented since commencement of the project. List is attached in annexure - I

   (iii) Geographical
   (a) National level – Number of State covered

   (b) State/UT level- Number of District covered

   Implemented: 14

   (c) District level- Number of Blocks covered

   Please give specific details:-
   As attached in annexure – I

   (iv) Demographic spread (percentage of population covered)
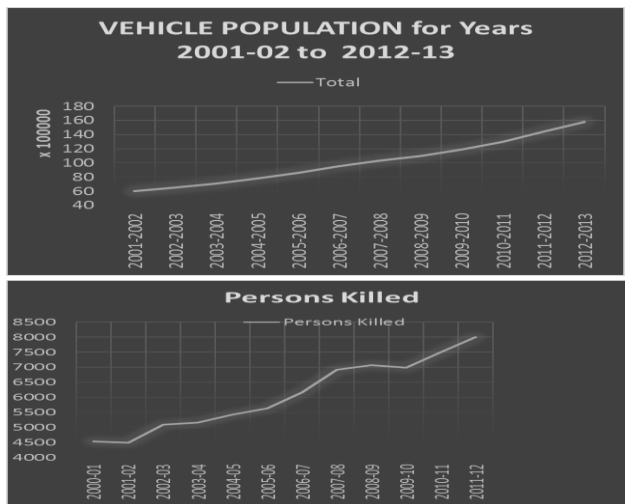   As attached in annexure – II

2. Situation Before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project #):

Before	After

Following Challenges / issues were identified related to Drivers & Driving Licences:

1.) Increasing living standards leading to increased travel requirements

2.) Rising number of vehicles and its use along with more people resorting to driving

3.) Rise in number of road accidents imposing significant social and economic costs

4.) Greater instances of traffic jams and road rage

5.) Increasing pollution levels

6.) Falling standards of Driving test due to paucity of staff and bias in the face of increased number of aspiring drivers

3. Scope of Services/ Activities Covered (Relevance of choice of application for client/ agency, Extent of e-enablement in terms of number of services, Extent to which step in each service have been ICT- enabled #)

The Project is huge in its scope and tries to cover whole state in phases. The construction of 37 tracks in first phase is a unique feature in the national history.

- A. Test for Two Wheeler
  - (1) Serpentine Track
- B. Test for Four Wheeler
  - (1) Forward 8 Track,
  - (2) Reverse 'S' Track,
  - (3) Reverse Parallel Parking Track,
  - (4) Up-gradient Track

I. Online registration system for driving test
Applicant takes online appointment for one's test with one's learning licence number and date of birth.

II. Registration at Test location
After the candidate arrives for taking the driving test, one would first approach Registration Desk. The Registration Desk has a PC and a printer. At the Registration desk, a thumb impression of the candidate is taken and is matched with data of Learning Licence from Database of SARTHI server. Comparison of thumb impression is done with data of candidate fetched from SARATHI and, if the data matches then the candidate is allowed to proceed for the test.

III. ID Generation
The Candidate ID is automatically generated by the system and it is used as an identity of the candidate for all tests that he is taking.

IV. Result Generation
After end of test, instantaneously result will be generated based on the difficulty level set department.

V. Monitoring of Tests
Entire test is monitored through CCTV surveillance camera with time stamp. One can retrieve test video data with help of candidate id

VI. Data Push to SARATHI Server
Test data will be pushed to SARATHI for further process.

4. Strategy Adopted

(i) The details of base line study done

The old processes were complex, cumbersome and full of redundancies and required to be simplified and standardized to reap full benefits of the computerised system. Therefore, re-engineering of different processes has been done.

(ii) Problems identified,

During the study following issues were identified:
1. Paucity of Technical Staff
2. Bias in the face of increased number of aspiring drivers
3. Public

(iii) Roll out/implementation model,

01st track was built and commissioned at ARTO Gandhinagar and then onwards rolled out at 16 locations.

(iv) Communication and dissemination strategy and approach used:

The project envisaged significant changes in the existing processes and systems with varying degree of impact on different stakeholders. Change management was an important ingredient of the whole scheme. Therefore, discussions were held with different stakeholders both individually and collectively. The officers and staff from the department were invited for discussion individually as well as collectively in different groups. Discussions were also held at the *Chintan Shibir*, the annual conclave of the department, to decide strategy as well as communicate clearly regarding the implementation of the programme. The Driving Schools, the transport association were also involved in the discussions.

5. **Technology Platform used-**
    (i) Description,

Automated Driving Test Track : Control System	
Technology	Microsoft .Net – Windows Application
Programming Language	C#.NET – Framework 4.0
Database	Microsoft SQL 2008 Server
Automated Driving Test Track : Registration System	
Technology	Microsoft ASP.Net – Web Application
Programming Language	C#.NET – Framework 4.0
Database	Microsoft SQL 2008 Server

(ii) Interoperability
All technical parts, e.g., sensors, cameras, RFID etc., have been made standardize.
(iii) Security concerns
Data is stored on SARATHI server and only required data is used during Automated Test Track, for each location, individuals are identified and assigned responsibilities.

(iv) Any issue with the technology used
No
(v) Service level Agreements(SLAs) (Give details about presence of SLA, whether documented, whether referred etc. #)
Yes.

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6. **Demonstrate innovative use of ICT for development** (Give details about use of new and emerging technology, innovative usage of ICT for process change to improve quality of the life/ organizational effectiveness, relevance of technology to provide the service #)

A. Systems, Sensors and Network.

a. A sensor, which is digitally addressable, for sensing any movement of the vehicle beyond the drive path. The sensor detects and sends a signal to the computer.

b. A Sensor is fixed for sensing Start and Stop time of a vehicle in a particular track. The sensor sends out infra red beam, which is interrupted when the vehicle crosses the line. The interruption is transmitted to the computer.

c. The heart of the Sensor electronics is a Micro-controller. When it receives the signal from the sensor, it sends the sensor number over a serial link to the controlling PC.

d. Power and Data Cables laid under the track provide the power and data connectivity between the Control room and the sensor electronics located in the field.

e. A PC with Web-camera is used to capture the photo of the candidate at the halftime during the driving test. This photo is stored in the server, as part of the candidate's record for any future reference. The same system provides the print out of the result of the test

f. A separate PC controls each track. It monitors the test, captures the test results and forwards the same to the server.

g. Server controls all the track PCs. It stores all candidates' data as well as the test results. The test results are printed from this system. A LAN network connects the server and the PC's.

h. CCTV: The Closed Circuit Television cameras fitted on the driving test tracks are used to record and monitor the driving test

B. Software:

a. Operating System:
a. Microsoft Windows 2008 for Server

b. Windows XP Professional for clients

b. Website:

A website is developed by the agency for providing online appointment to the candidate for driving test. The candidate enters his/her learning license number in the website and gets the date and time for the driving test. The website is compatible and may be integrated with SARTHI software provided by NIC at

all RTOs/ARTOs. Results of the driving test can also be seen online in the website soon.

c. Video-Player:

Video player application is provided to play the stored videos from the video server with provision for checking videos for a particular candidate by entering candidate ID and the track to view.

d. Web-based Application Software:

Application software has enhanced graphics with dynamic screen for all track applications.. The website based application software has optimized interfacing and communication with track electronics and hardware. Application Software is be web-based which comprises of the following modules:

a. Registration Module.

b. Sensor Monitoring Module

c. Database module

d. Networking module

e. Result Module

f. MIS Module.

7. **Citizen Centricity** (Give specific details on the following#)

  (i) Impact on effort, time and cost incurred by user,

Automated test track has helped the end user, Citizen a lot. It has made entire process, from on line appointment to test result absolutely transparent. Compare to earlier system, it saves applicant's time as well as one can come on give time and can complete the test within few minutes.

  (iii) Feedback/grievance redressal mechanism,

Applicant can give their feedback on respective RTO website.

  (iv) Audit Trails,

Yes, One can check the respective data of applicant with applicant ID, can access video with time stamp and other logs as well.

  (v) Interactive platform for service delivery,

A dedicated website (http://www.drivingtesttrack.in/) is launched with information where applicant can find different traffic signage and their meaning, can get appointment for the test, one can also go through various videos of different tests available on website.

  (vi) Stakeholder consultation

The Commissioner of Transport took the initiative and he is the guiding force behind the whole project. The project was conceptualized and discussions were held with different stakeholders by the Commissioner. Once the project was broadly conceptualized, discussions were held in the government at various levels. The Government took necessary policy decisions, provided guidance for implementation and sanctioned budget. The Commissioner also held discussions with department officials and staff at grass root level. He made it a point to tour most of the districts and held meetings with local staff. Thus, the staff got involved with the project and communication was clear. During the field visits, discussions were held with Driving Schools, associations and agencies involved in road safety work at the district level. These forums were used to invite suggestions that helped conceptualize and implement the project effectively.

8.   **Adaptability and Scalability** (Give details about Local language support, ability to leverage shared Government infrastructure, Standardization of technology used (hardware, software, application etc. #)

Automated Test Track has been implemented at various 16 places successfully, all with different local conditions aligning to local dimensions. All technical parts has been standardize, a standard operating procedure has been developed and implemented with a monitoring system. Videos & display boards have been prepared for local support.

9.   **Adaptability Analysis**
   (i) Measures to ensure adaptability and scalability

   (ii) Measures to ensure replicability
   Automated Test Track has been implemented at various 16 places successfully, all with different local conditions aligning to local dimensions. Standard process has been established and followed at various location. All technical parts have been made standardize for replicability.

   (iii) Restrictions, if any, in replication and or scalability
      NO.
   (iv) Risk Analysis
      Dissemination of information regarding test to applicant plays a crucial role.

10.   **New Models of Service Delivery** (Give details about type of partnership model use, Links to/Supported by Public/Private Organization Links provided to relevant websites etc. #)

→ The driving test is preceded by payment of fees for this purpose. It was decided that the fee for driving test will not be changed at the system. The whole financial model was design in a PPP method. In this model the cost of civil construction and land to given of front by the Govt. the Agency is paid on per test basis whereas the fee collected goes to the exchequer.

In making of these state-of-the-art automated test tracks, broadly 02 types of expenses will take place:

1. *Capital Expenditure* of Driving Test track, Latest Technology
2. *Recurring Expenditure* of maintenance of these test tracks

Expenditure Type	Capital Expenditure	Recurring Expenditure
Civil work bear by Government & recurring expenditure by Agency	₹.50 Lakhs	Borne by agency

→ A dedicated website (http://www.drivingtesttrack.in/) is launched with lot of information, where applicant can find different traffic signage and their meaning, can get appointment for the test, one can also go through various videos of different tests available on website.

11. **Efficiency Enhancement** (Give specific details about the following #)
   (i) Volume of transactions processed

Four Wheeler	Two Wheeler	Total
138877	238145	377022

(ii) Coping with transaction volume growth
   From MIS report have analyzed patterns and as per requirement, increased number of appointment available per time slots. Have also increased timings to have extra time slots.

(iii) Time taken to process transactions,

02 Wheelers	04 Wheelers
60 Second	540 Seconds

(iv) Accuracy of output,
   Result is automated, input provided by sensors, 99% accurate,

(v) Number of delays in service delivery
   NO Delay, Instantaneous Result Generation,

12. **User convenience** (Give specific details about the followings #)
   (i) Service delivery channels (Web, email, SMS etc.)
   A website is developed for providing online appointment to the candidate for driving test. The candidate enters his/her learning license number in the website and gets the date and time for the driving test. The website is compatible and may be integrated with SARTHI software provided by NIC at all RTOs/ARTOs. Results of the driving test can also be seen online in the website soon. Similarly, a mobile app is also developed through which one can get online appointment.

   (ii) Completeness of information provided to the users,
   Information about tests is available on website. Complete Videos of various tests are provided on the web. In addition to that while appearing for the test, in waiting room display boards and videos are provided which helps applicant to understand. Staff present on track also explains the test in brief before applicant starts the test.

   (iii) Accessibility (Time Window),
   Information on web site is available 24x7.

   (iv) Distance required to travel to Access Points
   Applicant does not need to travel extra as test tracks are constructed at RTO premises.

(v) Facility for online/offline download and online submission of forms,
Yes, On line Appointment is available. Applicant can also see videos provided on line for better understanding.

(vi) status tracking
As result is given instantaneously, status tracking is not required.

13. **Sustainability** (Give details about sustainability w.r.t. technology (technology used, user privacy, security of information shared – Digital Encryption etc. #), Organization (hiring trained staff, training etc. #), financial (Scope for revenue generation etc. #)
Technology, application development & database, is a proven platform, while only limited data is fetched from SARATHI server. The financial model and designing of the track has significant new features and presents a sustainable model for the whole country.

14. Result Achieved/ Value Delivered to the beneficiary of the project-(share the results, matrices, key learning's, feedback and stakeholders statements that show a positive difference is being made etc):

1. Digital Inclusion :
All beneficiaries are part of the project and they are benefitting from the project. It is a universal project. Automation has helped bring better efficiency and quality besides improving transparency standards.

2. Green e-Governance
Office has tried to minimize consumption of power & paper. With respect to overall process reengineering efforts, Office has ensured to minimize the consumption of papers:

Sr.#	Key result area	Before	After	Change
1	Attachment by applicants	10 pages per application submitted twice	8 pages submitted once	Saving of 12 pages per application resulting in annual saving of 12 million pages approx.
2	Paper works by Department	Maintenance of paper bound registers and books	All in electronic format	Saving of almost 1.2 million pages every year along with saving in manual effort involved in writing

15.   Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc): **G2C**

16.   Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, change in legal system, rules and regulations

> i.> Legal:
> The requirement of skill test is mandatory in CMVR. A circular was issued to ensure that the entire mandatory test is conducted as per the scheme of ADTT.
>
> ii.> Financial
> The driving test is preceded by payment of fees for this purpose. It was decided that the fee for driving test will not be changed at the system. The whole financial model was design in a PPP method. In this model the cost of civil construction and land to given of front by the Govt. the Agency is paid on per test basis whereas the fee collected goes to the exchequer.
>
> iii.> Operation
> All tests are conducted on Automated test track rather than by individuals as mentioned earlier. The complete operation and maintenance is done by the Agency and the department just does the general supervision.

17.   Other distinctive features/ accomplishments of the project:
         Automated test track has been applauded by various stakeholders, studied by various State Authorities and academia.

\# This is just an indicative list of indicators. Applicant can add on more information based on suitability of the project nominated.

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

ANNEXURE - I

Following are the RTO/ARTO offices across the State of Gujarat

Sr. #.	Location	No. of tracks to be constructed	
		L.M.V.	2-Wheelers
1	RTO Ahmadabad	1	3
2	RTO Mehsana	1	1
3	RTO Rajkot	1	2
4	RTO Bhavnagar	1	1
5	RTO Surat	1	2
6	RTO Vadodara	1	2
7	RTO Nadiad	1	1
8	RTO Palanpur	1	1
9	RTO Himatnagar	1	1
10	RTO Kutch-Bhuj	1	1
11	RTO Valsad	1	1
12	ARTO Bharuch	1	1
13	ARTO Gandhinagar	1	1
14	ARTO Navsari	1	1
15	ARTO Patan	1	1
16	ARTO Ahmedabad (East)	1	1
		16	21
	TOTAL	**37**	

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

ANNEXURE - II

Following are the RTO/ARTO offices across the State of Gujarat

Sr. #.	Location	% of Application (Approx.)
1	RTO Ahmadabad	14%
2	RTO Mehsana	3%
3	RTO Rajkot	8%
4	RTO Bhavnagar	3%
5	RTO Surat	12%
6	RTO Vadodara	9%
7	RTO Nadiad	3%
8	RTO Palanpur	2%
9	RTO Himatnagar	3%
10	RTO Kutch-Bhuj	4%
11	RTO Valsad	3%
12	ARTO Bharuch	3%
13	ARTO Gandhinagar	3%
14	ARTO Navsari	2%
15	ARTO Patan	1%
16	ARTO Ahmedabad (East)	5%
	TOTAL	**80% (Approx.)**

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