



सत्यमेव जयते



Kerala: Setting the Pace

SMS Alert Service: Mizoram



A joint Publication by  
NIC & MoRTH

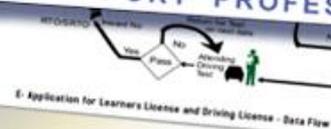
# PARIVAHAN NextMile

Newsletter on Computerization in the Transport Sector

VOLUME 1 No. 1 JANUARY 2013



NATIONAL  
INFORMATICS  
CENTRE **NIC**  
THE IT SUPPORT PROFESSIONALS



Application for Learners License and Driving License - Data Flow

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## Editor's Note

It has been a great way to start a New Year – working for the inaugural issue of *Parivahan NextMile*.

This publication carries the responsibility of disseminating information on one of the most successful ICT initiatives of the Country – the National Transport Computerization Project. We have tried our best to include every bit of information that could be relevant to the wide cross section of stakeholders of the project, but we will need the feedback of our readers to improve and grow.

It has been an advantage that almost everyone who is working for *Parivahan NextMile* is involved in the Project one way or the other. The State Coordinators of the Project have themselves doubled up as State Correspondents for *Parivahan NextMile*. The very people who have led the Project are in our Advisory Committee and Editorial Board. Our contributors are those who are in the Project Teams. Need we ask for more?

With the *Sarathi* to guide us and the *Vahan* to take us forth, we set out with confidence on a journey crossing many milestones towards the making of an even greater nation.

Wishing one and all A Very Happy & Prosperous New Year.



(Rubaiyat-ul Ali)



Volume 1 No. 1  
January 2013

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**Dr YK Sharma**  
Director General  
National Informatics Centre



Being the nodal ICT agency of the Government of India, the National Informatics Centre (NIC) has been at the forefront of the ICT revolution that has swept across the Country in the last four decades, and I have no hesitation in stating that the National Transport Computerization Project has been one of our most successful endeavours. Having said that, I have to qualify the statement by saying that the project is a prime example of how different government agencies at all levels have acquired the capability to work in tandem not only amongst themselves but also with the private sector to deliver citizen-centric services.

We have all come a long way since NIC set up the first terrestrial computer network for the Ninth Asian Games in Delhi in 1982 and then went on to interconnect the entire Government hierarchy down to the district level by establishing the NICNET. Today we have the powerful National Knowledge Network (NKN) riding on NICNET.

There has been a gradual change in focus throughout the years. Initially the emphasis of ICT, or IT as it was known then, was on enabling the Government. Now, after that has been achieved to a large extent, the essence is to deliver Government-to-Citizen services, and ICT-enable the citizen. The National Transport Computerization Project is the practical manifestation of the culmination of this trend in the very crucial and important Transport Sector.

Each project enriches the experience of NIC by expanding its knowledge base in all phases of project development and implementation. So has the National Transport Computerization Project. *Parivahan NextMile* will seek to disseminate this knowledge and experience amongst all those who are associated with the Project, including the citizen.

I wish it all success in its endeavour.



**Dr YK Sharma**

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**Dr Mahesh Chandra**  
Deputy Director General  
National Informatics Centre



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## *Yet another Milestone*

An ICT project of the scale of the National Transport Computerization Project passes through several phases in its implementation or rollout. Some of these are theoretically pegged milestones common to all such projects such as development of software and infrastructure, customisation of software, training and finally the actual commissioning or operation. Besides these, however, each project achieves its own unique milestones – some of these specified during the project planning stage itself while others crystallize as the project implementation takes shape and new feedback opportunities present themselves.

The National Transport Computerization Project has also come through a series of such milestones starting with the implementation of the basic modules of *Vahan* and *Sarathi* and thereafter adding value with provision of subsequent services and facilities, though the individual timelines may well have been overlapping or even not in sequence. The implementation of *Vahan* and *Sarathi* in more than 99 per cent of the Regional Transport Offices (RTOs) and District Transport Offices (DTOs) in the Country can be acknowledged as the primary and the first milestone that has been achieved. In its footsteps followed the linking up of the RTOs and DTOs leading to the establishment of the State Registers (SRs) and the National Register (NR) which in turn made possible the SR-NR web services. But parallel to these defined milestones, there were others such as the launching of Online National Permit in September 2010 and the implementation of the sub-modules of *Vahan* and *Sarathi* in the states. Thus, while some states took up computerizing the Learners' License test and implementing what is known as the *Sarathi* Stalls; others went ahead with computerization of the process of issue of state permits, and still others ventured into the arena of Enforcement bringing in automation in the processes of issue of challans and settlement of penalty amount.

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Innovations such the Any-Counter-Any-Service facility and the extension of *Vahan* and *Sarathi* access points to road check posts have contributed in their own ways to the overall effort.

In between all that has been happening, and happening at a pace faster than envisaged, there have been junctures between the milestones when it was required to take stock of things, to look ahead and plan for the future. These were the points when new requirements were assessed, and appropriate ICT tools to meet them were designed and crafted. This had to be done in close consultation with every organization involved – the Ministry, NIC, the State Governments and their respective Transport Departments and still other departments such as law enforcement and security that could use the data and the services to their advantage.

At present the Project is all poised to venture into new areas of work and life as more and more users are being provided access to the SRs and the NR to avail services such as SMS alerts, online application submission and online payment of fees and taxes. When we take stock of the situation today, one important requirement stands out above all others – the need to make project news, information, updates and plans available to all stakeholders – the need for everybody involved to look beyond his or her own level or domain and break free of being the proverbial frog in the well. The NIC Project Co-ordinators and teams at the state level need to know what is happening in the other states and what is being planned for at the technology front; the State Governments and the people working in the RTOs and DTOs have to know what their counterparts are doing in the other states and what is being made possible for better and more effective governance, and most important of all the private citizen – those who come to get their work done at the RTOs/DTOs – have to know about all the services and facilities that application of ICT has made possible for them. Whether they have to come to the RTO/DTO at all or can get their work done sitting at home.

The idea behind this newsletter – *Parivahan NextMile* – is to keep every body informed of not only of the far-reaching changes that are being brought about by the National Transport Computerization Project but also of what is being planned for so that they are in a position to react and participate and to contribute meaningfully to what is being acknowledged as a noteworthy success story of ICT initiatives in e-Governance in India.



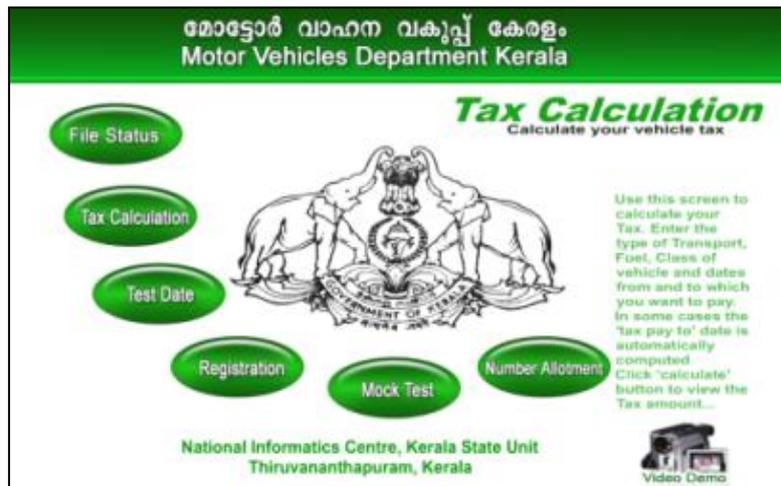
**Dr. Mahesh Chandra**



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## *Kerala: Sets the Pace*

From our Kerala Correspondent **Asir Edwin M**



In Kerala, complete computerization of the Kerala Motor Vehicles Department (KMVD) has been achieved in all Regional Transport Offices (RTOs), Sub Regional Transport Offices (SRTOs), Checkposts and offices of the State Transport Authority. Computerization of the Department has tremendously reduced time and cost of delivery and improved the quality of services for citizens. ICT initiatives of the Department have immensely improved the working ambience and environment of the employees. Revenue collection has increased and the Motor Vehicles Department is one amongst the top revenue-earning departments of the Government of Kerala.

### Vision

- ❖ Whenever
- ❖ Whatever
- ❖ Wherever

### Objectives

- ❖ Better Service to citizens
- ❖ Better working ambience to employees
- ❖ Better records maintenance
- ❖ Quick access to information
- ❖ Security
- ❖ Sustainability
- ❖ National Database interoperability

### Project Background

Computerization activities of the Department to provide better and quality services to the citizens started in 2001. The entire range of activities in RTO Thiruvananthapuram was computerized in 2002-2003. Funds provided by the Kerala State Government were used for the purpose. This was followed by the computerization of RTO Ernakulam in 2004, using e-governance funds from the Government of India. After these pilot implementations, the computerization process was replicated across all other trans-

port offices in the State on BOMT basis during 2004-2006. The project was named **FAST – Fully Automated Services** in the **Transport** Department. During the period 2007-2008, all the nineteen check posts and Office of the State Transport Authority were also fully computerized.

From 2007, initiatives to enable citizen services (e-Services, m-Services, e-Payment etc.) were started and successfully implemented within a short time span.





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At present, All RTOs/ SRTOs and STA are connected to the SDC (State Data Centre) through KSWAN (Kerala State Wide Area Network). Bi-directional data transfers take place every 10 minutes between RTO / SRTO and the State Consolidated Register (SCR). During the same time interval, the data is pushed to the State Register (SR) and National Register (NR). Twenty-five different types of e-Services have been enabled through the department portal:

<http://www.keralamvd.gov.in>

SMS services, online application submission with e-Payment facility, etc., have also been activated for the public from the SCR.

e-Services from the National Portal of Vahan and Sarathi (<https://vahan.nic.in> and <https://sarathi.nic.in>) have also been enabled in the State.



RTO Ernakulam



RTO Thiruvananthapuram

Integration with FRIENDS and FREES (utility payment systems in Kerala), eServices through AKSHAYA Centers (Community Service Centres of Kerala), Intelligent Enforcement Automation and Dash Board, etc., are also the key achievements of the Department.

## Project Status

Two phases of the computerization activities have been completed and the Department is now moving ahead for the completion of the Third Phase:

### PHASE I (2001-2008):

In the first phase, all the RTOs, SRTOs, Checkposts and the STA were fully computerized using the Client-Server application.

#### o Computerization of RTOs/ SRTOs (2001-2006):

All RTO services such as Vehicle Registration, Driving License and Vehicle Permit issue, Vehicle Tax payment, etc., were computerized, and all 65 RT and SRT Offices under the Department are now functioning smoothly. All backlog data in all offices were digitized and made available to the system. More than 200 different software modules were developed to provide the best of services to the public.

#### o SMART Touch (2004-2006):

All the RT and SRT offices are equipped with touch screen kiosk, and the software application SMART Touch has been installed in all the offices for providing information services to the public.

#### o SMART STA (2007-2008):

Services from the office of the State Transport Authority were

computerized for the providing services such as All India Tourist Taxi Permit, EV Permit Tax, Bilateral Tax, etc.

#### o SMART Checkpost (2007-2008):

With the help of the Check Post application, all checkpost-based services for checking various permits of vehicles crossing checkposts, maintaining Vehicle Movement Register, other state vehicle tax collection, etc., were fully automated. All the 19 border checkposts were also fully computerized and are functioning effectively.

#### o Any-Counter-Any-Service (2008):

With the implementation of this application system, the public can now approach any counter in the office for availing any service. This system ensures more efficient and satisfactory service to the public by avoiding unnecessary procedures and undue delay in processing applications.



Touch Screen Kiosk in RTOs

### PHASE II (2007-2012):

In the second phase, the Department was successful in building up a central data base and delivering various e-Services from the central database:





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o **Network Connectivity through KSWAN (2008-2009):**

KSWAN (Kerala State Wide Area Network) connectivity between all the offices and the data center was established in all offices of KMVD.

o **Centralization of data for SCR (2007-2009):**

The in-house developed ETL tool SMART Sync was used for data consolidation and replication of data at a regular interval from the all the field offices to the central server for SCR and SR.

o **SMART e-Transport (2009-2012):**

Internet-based citizen services have been enabled through the department portal - <http://www.keralamvd.gov.in> Citizens can now submit online applications for 24 MVD services through the MVD portal. Vehicle dealers and driving schools can also submit applications for new vehicle registrations and new driving licenses through their login privileges. More than 50 lakh online applications have been processed so far. Information services like details of vehicles and driving licenses, Learners License Mock Tests, File Status, etc. are also available in the portal.

Necessary facility has been provided in the website for employees to login and retrieve various statistical reports in the sub offices. Web-based modules for certain services like compliant redressing, All India Tourist Taxi (AITT) Permit application processing, etc., have also been enabled through this intranet-based application.

o **m-Services (2010):**

Messages in specific formats can be sent to the number 537252 for availing information services through mobile phones. More than 6 lakh SMS requests have been processed so far.

o **Data to State Register and National Register (2010):**

Data is being replicated to the NIC Data Centre for the State Register and National Register and various G2C/G2E services such as National Permit Service and e-Payment, Other State Vehicle search, NOC search, etc. through *Vahan* and *Sarathi* portals <https://vahan.nic.in> and <https://sarathi.nic.in>

Kerala is one of the first states which could port 67 lakh vehicle details and 68 lakh driving license details to the National Register by the end of 2010.

o **Fast Track Services (2010):**

A new innovative venture of the department called FAST TRACK facility was implemented to provide instant services to citizens through a single visit to the offices.

o **STQC Certification for Software & Hardware (2011):**

As part of e-payment enablement, STQC certification has been obtained from the Directorate of STQC for the e-Transport software application and the servers.

o **Intelligent Enforcement Automation (2011):**

Intelligent Enforcement Automation System was enabled for enhancing road safety and for detecting and sending 'Charge Memo' to the traffic rule violators using surveillance cameras installed at traffic junctions. The system is connected to the SCR through web service to automatically print vehicle owner's address in the charge memo. The amount fined can be paid in any RTO or through e-payment.

o **Services through CSCs like Akshaya (2011):**

e-Services of the Department have been enabled through Akshaya Centers. Through this facility, citizen can approach the nearest Akshaya Centre to submit their e-Application in the MVD web portal for road



*Transport Commissioner, Kerala receiving the CSI award along with IT Secretary Kerala & NIC Transport Team*



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Transport related services. This ensures that the common man can avail MVD e-services easily.

#### o **E-payment (2011-2012):**

e-Payment facility for 24 services has been enabled by the Department. By using the e-payment system, citizens can remit their fees, taxes, cess and fines for road transport related services electronically.

#### **PHASE III:**

The Department aims to achieve the following in the third phase:

- o *Eliminate duplicate Records & Maintain Single data for RC & DL by 2013.*
- o *Web-based Vahan and Sarathi by 2013.*
- o *Automated Driving Testing Track - Pilot project by 2013.*
- o *Automated Vehicle Testing Station Pilot project by 2013.*
- o *Digitally signed applications and digitally signed certificate by 2013.*

### **Infrastructure**

The entire computerization initiative in Kerala is backed by adequate state-of-the-art infrastructure which includes:

#### o **Training Centre:**

The Department has a training centre and training programmes are organized for master trainers for new version releases. Regular training programmes are conducted by Master Trainers for the Department staff. Stake holders like Vehicle dealers and driving school owners are also given training on e-applications and e-Payment.

- o Conference rooms for regular meeting on ICT progress.

- o Exclusive ICT Support team (SSG) for monitoring the present ICT activities and for leading new ICT initiatives of the department.

- o Hired service providers for System Maintenance and IT support.

#### o **Hardware:**

All the RTOs / SRTOs / STA / Checkposts are equipped with primary and backup Servers. Six high-end servers are collocated in the State Data Centre (SDC) for SCR and SCR-based services and another four servers are being used in the NIC Data centre for SR, NR data replication and services from SR and NR.

### **Other Innovations**

Various modules for effectiveness and business continuity have been implemented in the Department.

- o Dash board services for data analysis.
- o Linking of dispatches with Speed Post Delivery.
- o Complaint Redressal System.
- o Data sharing with other Enforcement Departments such as Police, Excise, Customs, etc.

### **Best Practice and Policies**

Following security policies and office disciplines are being strictly implemented in all the offices:

- o Security policy for Database Server Authorization
- o Security Policy for Version Control and Application Registration
- o Security Policy for Server Management

- o Security Policy for User Management

- o Audit Trail data maintenance policy

- o Data Manipulation Control policy

- o Backup Policy

- o Disaster Recovery (DR) Policy

- o Network Monitoring Policy

- o Antivirus policy

- o Master code maintenance policy

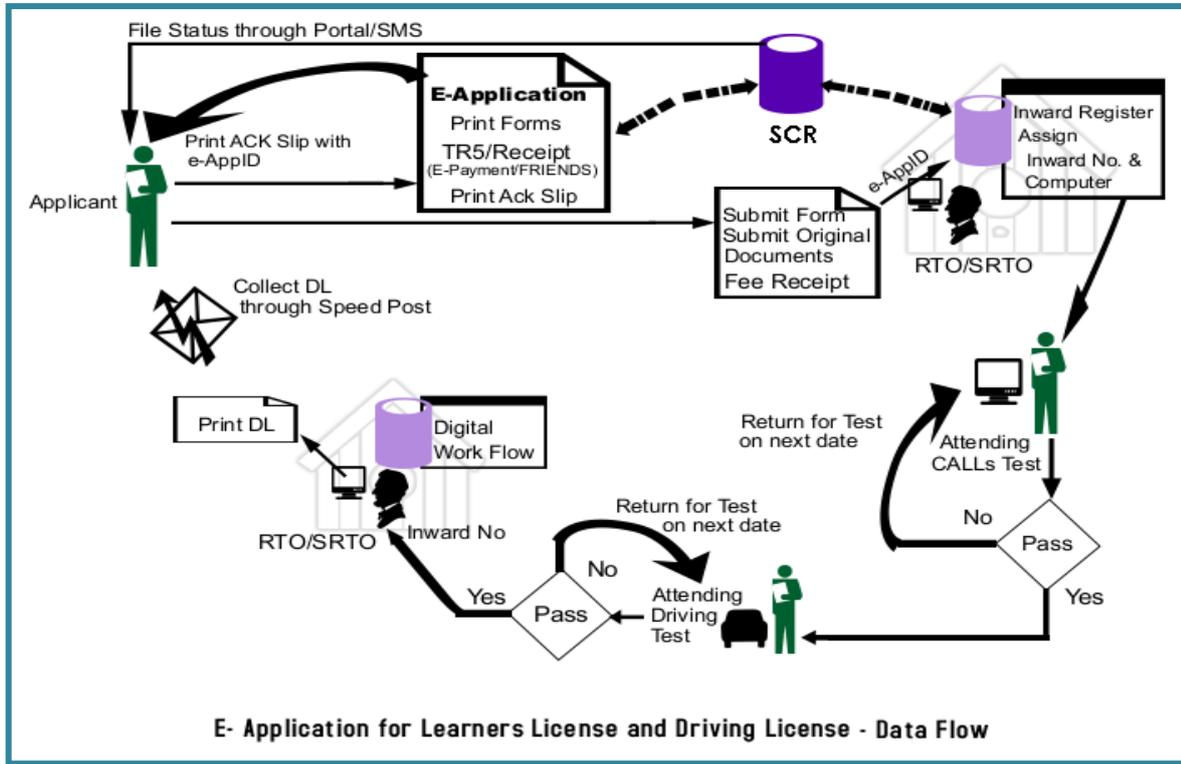
- o Roles and Responsibilities in all level of users.

### **Awards and Recognitions**

- The Intelligent Enforcement Automation System has won the e-World Jury Choice Awards for the **Best Initiative for Use of ICT in Public Safety, Security and Disaster Management** category for the year 2012.
- SRTO Pattambi Department received the **ISO 9001:2008 Certification** for the period 2011-2014.
- The Kerala Motor Vehicles Department bagged the **CSI Nihilent e-Governance Award** for the Best e-governed Department for the year 2008.
- **The Skotch Microsoft Award** was bagged for computerization activities of Kerala Regional Transport offices for the year 2006.
- On January 5, 2013, as a harbinger of more good things to come, the **Skoch Group conferred its 'Highest Independent Honour in India' the Financial 2013 Inclusion Award for ICT-based Innovation to the National Informatics Centre for the Check Post Solution of Vahan.**



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Chief Minister Shri Oommen Chandy inaugurating the Intelligent Enforcement Automation System



Minister for Transport Shri. Aryadan Mohammed inaugurating the e-Payment System





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## Mizoram: Query & Alert based SMS Service

From our Mizoram Correspondent **C Lalmuanawmi and Sandip Pramanik**



As the Transport Computerization Project became more and more established in the States and Union Territories of the Country, people started looking at what value additions could be made to offer more facilities and services to the citizen through the software system. The state of Mizoram in the Northeast came up with the innovative **Query and Alert-based SMS Service for the Mizoram Transport Department**. The service gained recognition of the Grand Jury as an award winner for the **e-North East Award 2012 for e-Governance and Public Service Delivery**. It was like the proverbial icing on the cake. We present a profile of the SMS service from Mizoram



### Nature of Service

Query and Alert-based SMS Service for the Mizoram Transport is a citizen-centric SMS service which provides:

- 1) 24x7 Government-to-Citizen (G2C) and
- 2) Citizen-to-Government (C2G) services

### G2C Services

The system automatically sends SMS Alerts to the cell phones of owners 7 days before the expiry date of the **Road Tax or Fitness** of the vehicle. Every day at 10

AM a Java scheduler generates a list of all vehicles whose **Road Tax or Fitness or both** are to expire after 7 days. Subsequently, another JAVA scheduler sends SMSes to the cell phones of all the identified vehicle owners one by one automatically starting at 11 AM. SMSes are also sent to the cell phones of owners of vehicles for which the period for Road Tax or Fitness have already expired. The SMSes also tell them till when they would be able to pay the taxes or fees without penalty.

Citizens can send a query to know the expiry date for Road Tax or Fitness fees by sending an SMS to the specified number (**9212357123**) in a specified format. The system instantly reverts back with an SMS giving only the date.

In case the SMS is sent from an authorized cell number of a Transport Official, Police personnel, Enforcement Agency personnel, etc., the system reverts back by

sending an SMS containing full information including Owner Name, Address, Vehicle type, Tax, Insurance etc.

### Sample Format:

**VAHAN<space>MZ<space>TAX/  
FIT<vehicle no>**

*Example:*

**VAHAN MZ TAX MZ01H1142**  
(TAX expire date)

**VAHAN MZ FIT MZ01H1142**  
(FITNESS expire date)

[Note: All Letters are Case Insensitive]



System Overview of SMS Query Application





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## Technical description of the application

The SMS service has been developed using Java, Servlet, JSP, jQuery, Ajax and PostgreSQL 8.4 database. Red Hat Enterprise Linux (RHEL) 5.4 is being used as the operating system and around 600 GB space of Storage Area Network (SAN) server is being used for table space allocation of PostgreSQL database.

This service is hosted in the NIC Mizoram State Data Centre in a HP Proliant server which is used to provide 24x7 services. It uses the NIC SMS gateway which is located at NIC HQ Delhi in a highly secure, scalable and reliable environment.

There is a 2 Gbps bandwidth connectivity between NIC Delhi and NIC Mizoram, and since it is a Java Servlet-based SMS service, it is platform independent. Secure Shell Layer (SSL) and Digital Signature Certificate (DSC) have been installed in the Linux Server. All these make the system fast, scalable, reliable and secure.

This SMS application uses real-time information from the State Register (SR). The system uses PostgreSQL database at the SR level and the NIC SMS gateway sever which is located at NIC Delhi.

In case of G2C services, the Alert SMS service needs to collect the mobile numbers of vehicle owners at the RTO side through the VAHAN application. Therefore, whenever an individual visits any RTO for some work, the computerized system prompts the person working on the system to enter the individual's cell phone number. All such entries are directly reflected in the State Register (SR) at the time of RTO

to SR replication through the Oracle Data Integrator (*Refer Technology Drive Section of current issue*).

Whenever a citizen sends an SMS to the message centre number **(9212357123)** in the proper format, it reaches the NIC SMS gateway. The Gateway sends this information to the State Register in NIC Mizoram with the sender's number. After parsing of the content by the SMS service, it generates the message content and replies back to the NIC SMS gateway with the sender's mobile number, which in turn is directed to the mobile number.

## The Deliverables

- 1) Citizens receive the required information on their vehicles simply by sending an SMS independent of internet connectivity and without having to go to the respective Regional Transport Offices (RTOs).
- 2) Authorized users (Traffic police, enforcement agency, etc.) get full details of specified vehicles and owners on the spot by sending SMS from authenticated mobile numbers, which is very helpful in cases of criminal or enforcement offences. It also helps authorized users to monitor tax defaulters and others who fail to renew the fitness of their vehicles.
- 3) The service is a potential money saver for citizens as it gives pre-information on vehicle's Road Tax / Fitness expiry dates so that they can avoid being penalized.

## Quantitative and Qualitative Impact

Because of the hilly terrain of Mizoram, access to internet connectivity is very difficult for the common people who stay in remote places. Sometimes connectivity is a big issue in city areas also.

Under the circumstances, the SMS Alert service not only makes information access possible for the citizen of Mizoram but also eliminates arduous journeys to RTOs with long queues and waiting time.

## Awards & Recognitions

### North East Award 2012:

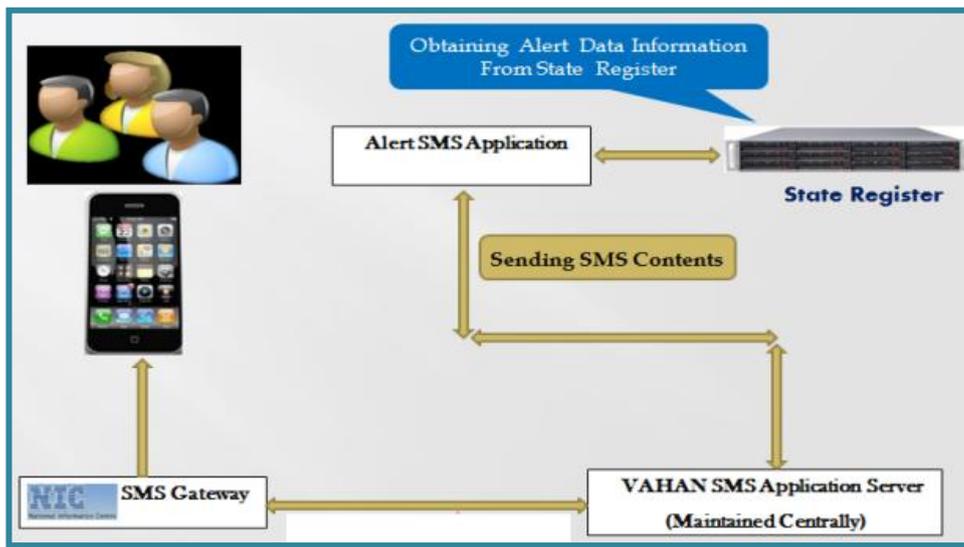
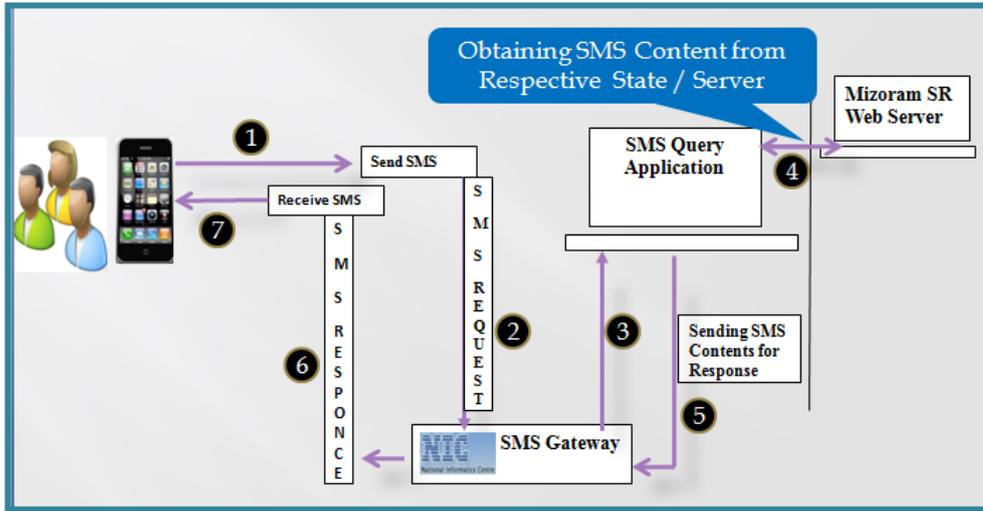
The Query and Alert-based SMS Service for Mizoram Transport Department has been given the Certificate of Recognition in the Category 'e-Governance and Public Service Delivery' of the e-Northeast Award 2012.





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### Alert SMS Service Flow



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The Ministry of Road Transport and Highways (MoRTH), the National Informatics Centre (NIC) and the respective State Transport Departments have worked hand in hand to bring the National Transport Computerization Project to the stage of practical accomplishment that it is at today. The end result has been a sea-change in the way the Transport Sector of the Country functions.

The wheel of time turns ceaselessly towards a better, brighter and more transparent future. In this inaugural issue of the newsletter we present a medley of all that has been happening in the last few years in the form of abstracts and collages of news reports and features in the media across the Country.

The journey started in the year 2000 when *Vahan* and *Sarathi* were conceived in response to the recommendations of the SCOSTA Committee set up to study how to define standards for Registration Certificates (RCs) and Driving Licenses (DLs) on a pan-India level to ensure interoperability, accuracy and timely availability of information. *Vahan* and *Sarathi* envisaged capturing the functionalities as mandated by the Central Motor

Vehicle Act 1988 as well as the state motor vehicle rules with necessary customization in the core product to suit the requirements of all states and union territories. This would be accomplished by computerizing almost the entire work flow in transport offices all over the Country.



*The first commissioning of Vahan at DTO East Khasi Hills (Shillong) in Meghalaya on April 15, 2002*



*Inauguration of issue of smart card at DTO Kamrup in Assam on February 3, 2009*

## Implementation of *Vahan* and *Sarathi*

Picturesque Shillong (East Khasi Hills District) in the north-eastern state of Meghalaya was the first District Transport Office (DTO) to operate *Vahan* on April 15, 2002. *Sarathi* was first commissioned in Kaithal district of Haryana in the same year. *Vahan* and *Sarathi* have at present been commissioned in

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Commissioned in more than 99% of the Country's Regional Transport Offices (RTOs)/ District Transport Offices (DTOs). The going was tough but everybody chipped in. The implementation process involved a variety of tasks starting from imparting training to the State Transport Department personnel, customization of the software for each and every state according to specific state requirements, installation of hardware and network connectivity, issue of smart cards and setting up of Learners' License Stalls for *Sarathi*.

## Online National Permit

The approach was not to do everything all at once but take things one at a time. Once the basic modules of *Vahan* and *Sarathi* were in place, the Online

## Commercial vehicles can pay tax online now

### Transport Dept & SBI Ink Pact, Create Website

TIMES NEWS NETWORK

**Lucknow:** Taking cue from other state government departments going the online way, transport department too has acted. The commercial vehicles entering UP from other states on a temporary permit can pay the tax online now.

People coming on tours to UP in taxis or buses, can log on to the website and pay the tax. This will save people from running pillar to post to pay the tax. "It was a big trouble searching for the transport office to pay the tax," said sources in the transport department.

To make it easier for the people, transport department and State Bank of India (SBI) have entered into an agreement to let people pay their tax online. A website has been created for the purpose. People from other states who come visiting UP in a taxi or a bus can log on to the website and make the payment. The system will generate the receipt



MAKING TAX PAYMENTS HASSLE-FREE

which the person can keep for his record and show if he enquired about the tax. This will also help in making the process of paying the tax transparent and accountable. A person will pay the fixed amount online, and may not be charged irrational amount, which is always a possibility in payments made manually.

Since check posts are no longer there, commercial vehicles entering from other states on temporary permits have a problem hunting for

transport offices to pay the tax. A person, who has internet access on his mobile can pay the tax sitting in the vehicle.

Since the department has already made a move, sources do not deny that it might be taken further. "Since an agreement has already been made, there is no harm in taking the benefit further," said sources. In days to come, the online payment of registration or a licence fee might become a reality.

*Announcing the facility of online payment of taxes in Uttar Pradesh*

National Permit web application following the principle of 'One Country One Permit' was launched in 2010.

Punjab was the first state to implement the Online National Permit.

Meanwhile, many states had already taken the initiative to enable online transactions be it in terms of money or information. Uttar Pradesh started online payment of taxes for commercial vehicles along with many other states as reported in the Lucknow edition of a newspaper.

## A first: Online National Permit for truckers

UMESH DEWAN/TNS

PATIALA, MAY 26  
Deputy CM Sukhbir Singh Badal today launched the online National Permit system for trucks and heavy vehicles, thereby giving Punjab the distinction of being the first state in country to introduce a new composite-fee regime for transporters. Addressing a gathering of truck operators at the Mini Secretariat here, he said earlier obtaining a national permit was a cumbersome and costly process, as the transporters had to shell out Rs 3,000 per state every year for the permit. "Following the principle of 'one country one permit', the SAD-BJP government has started the



Deputy Chief Minister Sukhbir Singh Badal inaugurates an online National Permit scheme for truck operators in Patiala on Wednesday. — PTI

online national permit system at a cost of Rs 15,000, which would give freedom to truck operators to operate their trucks from Kashmir to Kanyakumari - anywhere in the country, without any additional tax," he asserted.

After handing over national permits to truck operators within minutes of their filing applications through the new system at the newly set up fully computerised Regional Transport Authority (RTA) office, Sukhbir, while speak-

ing to mediapersons, said being from the family of transporters, he himself understood the grassroots problems faced by a transport operator at every check point in every state. "Under the new system, the applicant can download the form online and after filling it, the truck operator would submit it with fee at the special National Permit counter and would be issued a permit within 30 minutes," he said, while adding that one lakh truck operators would be the beneficiaries of the new system. He said that the functioning of the Transport Department would be computerised by December this year and every RTA and District Transport Office of Punjab would have the online National Permit system.

*A news report in the Patiala edition of the Times of India*



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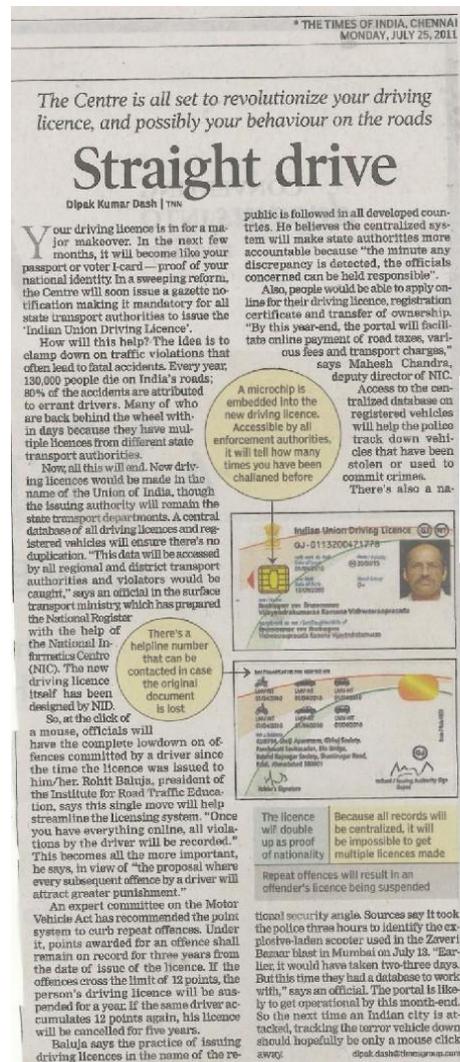
A news report comments on the potential of detecting fake driving licenses through the state registers and the National Register

## The State Registers & the National Registers

All the while, the turning wheel of time was moving towards the next milestone – the State Registers (SRs) and the National Register (NR). True to the mandate given by the SCOSTA Committee during the stages of project conceptualization, the SRs and NR successfully inter-linked all transport offices and collated district and state data at the national level. The National Register has been established at the NIC Hydera-

bad Data Centre. Its architecture has been designed for high availability, reliability and scalability. It also acts as a database backup for the state registers, and is connected through the high bandwidth NIC network, the NICNET, which supports all real-time replication from the state registers to the National Register.

The Union Minister for Road Transport & Highways inaugurated the SRs and NR in Delhi on July 20, 2011.



A Times of India July 25, 2011 report on impact of SRs and NR could have on driving behaviour



A news report lays emphasis on the NR as a way to track stolen vehicles



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## ‘सारथी’ और ‘वाहन’ ने बदल दी है ट्रांसपोर्ट विभाग की कार्यशैली

नई दिल्ली, 4 नवम्बर (श्रीकान्त शर्मा) : दिल्ली में यदि कहीं आपकी गाड़ी 'नो पार्किंग जॉन' में खड़ी हो या आप 'गति सीमा' नियमों का उल्लंघन कर अथवा कोई 'दुर्घटना' कर भाग रहे और यातायात पुलिस अधिकारी आपका नाम लेकर यदि कोई चेतावनी दे रहा हो तो चौकीदार नहीं कि पुलिस अधिकारी को आपका नाम कैसे पता लगा गया। उस पुलिस अधिकारी के पास केवल आपका नाम ही नहीं बल्कि आपके घर या आपके दफ्तर का पता और आपकी गाड़ी का पूरा विवरण भी मौजूद होगा।

बासव में यातायात पुलिस के अधिकारियों के मोबाइल फोन में देश के आरटीओ के डाटा बैंक से संपर्क रखने वाला चमत्कारिक सॉफ्टवेयर 'वाहन' आ गया है जिससे वे सड़क पर खड़े हुए देश में पंजीकृत किसी भी गाड़ी को 'जन्म कुंडली' अपने फोन पर मंगा सकते हैं।

'वाहन' और 'सारथी' दो ऐसे सॉफ्टवेयर हैं जो एनआईसी यानी नेशनल इन्फोर्मेशन सेंटर ने ई-गवर्नंस योजना के तहत देश के परिवहन विभागों के कम्प्यूटरों लिए मूहैया कराए हैं जिनका संबंध पुलिस अधिकारियों के मोबाइल फोन से इंटरनेट के माध्यम से कर दिया गया है। इन सॉफ्टवेयरों को केन्द्रीय आर्टिफिशियल इंटेलिजेंस आधारित एनआईसी यानी राष्ट्रीय सूचना विज्ञान केन्द्र ने बनाया है। ई-गवर्नंस परिचयना के महत्वपूर्ण हिस्से बन चुके ये सॉफ्टवेयर अब देश के

कम्प्यूटरकरण के अभिन्न भाग बन गए हैं जिसके लिए एनआईसी के उपमहाविदेशक डॉ. महेश चन्द्रा को पिछले पांच सालों से लगातार सम्मानित किया जा रहा है। इनकी सफलताओं को देखते हुए डॉ. महेश चन्द्रा को पिछले साल ही सोप्टवेयर इंजिनियरिंग अवार्ड और स्काच ई-गवर्नंस अवार्ड से सम्मानित किया गया था। इससे पूर्व डॉ. महेश चन्द्रा और कल ई-गवर्नंस अवार्ड से भी सम्मानित हो चुके हैं। स्काच चैलेंजर अवार्ड तो डॉ. महेश चन्द्रा को 2010 से लगातार मिल रहा है और वह इस अवार्ड से 2012 में भी सम्मानित किए गए हैं।

डॉ. महेश चन्द्रा का दावा है कि देश के सरकारी विभागों के लिए एनआईसी 'सारथी' और 'वाहन' जैसे सैकड़ों सॉफ्टवेयर बना चुका है जिसका पूरे देश में सरकारी विभागों में उपयोग हो रहा है। डॉ. महेश चन्द्रा 'सारथी' और 'वाहन' की यात्रा का उल्लेख करते हुए पंजाब केसरी को बताते हैं कि ई-गवर्नंस योजना में इन दोनों की शुरुआत सन् 2000 में हुई थी। अब गिने चूने आरटीओ को छोड़कर ये देश के लगभग आरटीओ में अपनी मौजूदगी दर्ज करा चुके हैं। उम्मीद है कि शीघ्र ही वह बक भी आ जाएगा जब इन दोनों सॉफ्टवेयरों का लाभ देश के सभी क्षेत्रों के आम आदमी को मिलने लगेगा।

'वाहन' का उपयोग गाड़ियों के पंजीकरण और उस से जुड़ी तमाम सेवाओं के लिए किया जाता है। जबकि 'सारथी' का उपयोग वाहन



एन.आई.सी. के उपमहाविदेशक डॉ. महेश चन्द्रा प्रधानमंत्री की आर्थिक सलाहकार परिषद के अध्यक्ष सी. रंगराजन से सम्मान शील्ड प्राप्त करते हुए।

चालन लाइसेंस और उससे जुड़ी सेवाओं के लिए किया जाता है। है जबकि 'सारथी' का उपयोग इनमें से 'वाहन' पंजाब, हरियाणा, पश्चिम बंगाल के 80 प्रतिशत आरटीओ में किया जा रहा है। वैसे जिन प्रदेशों

### 'वाहन' का कहर गाड़ी चोरों पर

देश के आरटीओ की कम्प्यूटर कार्यप्रणाली में 'वाहन' जुड़ जाने से गाड़ी चोरों पर जैसे कहर टूट पड़ा है। 'वाहन' का प्रयोग गाड़ियों के पंजीकरण और उससे जुड़ी सेवाओं के लिए होता है। पुरानी गाड़ी के पुनः पंजीकरण के लिए जैसे ही किसी गाड़ी को कोई एक भी जानकारी कम्प्यूटर में डाली जाती है, 'वाहन' सॉफ्टवेयर पूरे देश के सभी आरटीओ के कम्प्यूटरों से डाटा की खंगाल कर उस वाहन की पूरी 'जन्म कुंडली' उस कम्प्यूटर में पेश कर देता है। पहले जब 'वाहन' का प्रयोग आरटीओ में नहीं होता था, तो चोरी की हुई गाड़ी का नया पंजीकरण करा कर चोर गाड़ी मालिक को चूना लग कर अपनी और आरटीओ के दलालों की जेब भर लिया करते थे। अब गाड़ी चोरों और आरटीओ में सक्रिय उनके दलालों के लिए यह आसान नहीं रह गया है। गाड़ी चाहे हरियाणा या पंजाब से चोरी कर तमिलनाडु में कहीं बेची जाए, आरटीओ में उसके पंजीकरण के वक चोर 'वाहन' के हथके चढ़ ही जाता है।

के आरटीओ में 'सारथी' का उपयोग हो रहा है उनमें हरियाणा, पंजाब, हिमाचल प्रदेश, दिल्ली आदि राज्य भी शामिल हैं।

दिल्ली और हरियाणा से उत्तर प्रदेश के कुल 71 आरटीओ में से पश्चिम बंगाल एक आरटीओ ही ऐसा है जहां 'सारथी' इन्फोर्मेशन लाइसेंस बनाने और उससे जुड़ी सेवाओं की कार्य प्रणाली को चला रहा है। वैसे हाल ही में उत्तर प्रदेश मंत्रिमंडल द्वारा हाल ही इस संबंध में निर्णय लेने के बाद अब वह दिन दूर नहीं जब सारथी उत्तर प्रदेश के सभी 71 आरटीओ में इन्फोर्मेशन लाइसेंस से जुड़ी सेवाएं आम आदमी तक पहुंचाने लगे। दक्षिण भारत के सभी राज्यों के तमाम आरटीओ इन सॉफ्टवेयरों का प्रयोग कर रहे हैं। यहां तक कि तमिलनाडु में जहां देश के सबसे अधिक 113 आरटीओ हैं, 'सारथी' और 'वाहन' का प्रयोग हो रहा है। राजस्थान जखर ऐसा प्रदेश है जहां 40 से से केवल 12 आरटीओ ही इन सॉफ्टवेयरों का प्रयोग कर रहे हैं। डॉ. महेश चन्द्रा के दिशा दिदेशों में बने 'सारथी' ने स्मार्ट कार्ड लाइसेंस बनवाने और उससे जुड़ी सेवाओं को पूरी तरह से स्वयंचालित कर दिया है। इससे लाइसेंस बनाने की कार्यप्रणाली सुगम और तेज हो गई है। इतना ही नहीं उनमें पूरी पारदर्शिता भी आ गई है। इस सॉफ्टवेयर ने ट्रांसपोर्ट विभाग की कम्प्यूटरप्रणाली को तेज कर प्रतीक्षा समय को पूरी तरह कम कर दिया है। यह 'सारथी' की ही देन है कि आम आदमी को अपने

काम के लिए ट्रांसपोर्ट विभाग के चक्र भी पहले की तुलना में न के बराबर ही लगाने पड़ते हैं। दलालों पर तो इस सॉफ्टवेयर का कहर ही दूटा है क्योंकि अपने कई काम आम आदमी अब अपने घर से ही इंटरनेट के माध्यम से कराने लगा है। इसके लिए उसे न तो समय और न ही पैसा अधिक खर्च करना पड़ता है। इस सॉफ्टवेयर के माध्यम से वेब आधारित 'सारथी' को अपने कम्प्यूटर के इंटरनेट से संपर्क करना होता है और इंटरनेट से ही वाहन चालन लाइसेंस की अनेक सेवाएं उसके घर ही मौजूद होती हैं। यदि इन सेवाओं पर नजर डालें तो पहले नए या दुप्लिकेट लाइसेंस के लिए आवेदन करने के लिए तीन-चार पेटे खराब करने होते थे लेकिन अब आवेदन करने में कोई समय नहीं लगता। इसी प्रकार लाइसेंस पर अंकित सूचनाओं में संशोधन इंटरनेट से तुरन्त ही जाते हैं जबकि पहले इसके लिए भी तीन से चार पेटे लगा जाते थे। नया या दुप्लिकेट लाइसेंस मिलने में पहले 7 दिन से अधिक का समय लगता था लेकिन अब आम आदमी को यह उसी समय मिल जाता है। लाइसेंस में नाम बदलवाना हो, दुप्लिकेट लाइसेंस लेने के लिए आवेदन करना हो, बायोमेट्रिक्स बदलवाने हों तो यह सब इंटरनेट तुरन्त कर देता है जबकि परामर्श लाइसेंस उसी दिन मिल जाता है जिसके लिए पहले काफी मेहनत मशकत करनी होती थी। सड़क परिवहन विभाग को केन्द्रीय मोटर व्हीकल रेगुलेशन

### यातायात पुलिस भी कर रही प्रयोग

यातायात पुलिस को 'वाहन' बड़े काम को चोंच लग रही है। उसे तो जैसे यह जादू का करिया हाथ लग गया है। 'वाहन' से यातायात पुलिस अपने मोबाइल फोन पर देश के किसी भी आरटीओ में पंजीकृत गाड़ी की पूरी जानकारी ले सकती है। 'नो पार्किंग' में गाड़ी खड़ी हो या फिर 'लाल बत्ती' जम करके भाग रही हो अथवा 'गति सीमा नियम' किसी वाहन चालक ने तोड़ा हो अन्यथा 'दुर्घटना करके' कोई गाड़ी वाला भाग रहा हो, यातायात पुलिस अधिकारी गाड़ी का नंबर अपने मोबाइल में डाल कर कुछ ही क्षणों में उस गाड़ी को 'जन्म कुंडली' अपने फोन पर ले कर उचित कार्यवाही कर सकता है। इससे पहले यातायात पुलिस को नियमों का उल्लंघन करने वाले चालक के वाहन का नंबर आरटीओ को भेजना पड़ता था तब उसे गाड़ी के मालिक और उसके निवास या दफ्तर का पता लगता था। तभी कोई कार्यवाही हो पाती थी।

### नाम रखने का दिलचस्प किस्सा

व्यक्ति हो या कोई योजना-परियोजना अथवा कोई वस्तु, आकर्षक और यथा नाम, तथा गुण चर्चित करने वाले नाम उसके भविष्य की सफलता में बहुत महत्व रखते हैं। यही कुछ 'सारथी' और 'वाहन' के साथ भी हुआ। ई-गवर्नंस के तहत जब इस परियोजना के पायलट प्रोजेक्ट बनाने की बात हुई तो बातचीत उनके नामों पर अटक गई। लोधी रोड स्थित राष्ट्रीय सूचना विज्ञान केन्द्र के मालियारों में उपमहाविदेशक डॉ. महेश चन्द्रा अपने कृष्ण वरिष्ठ साथियों के साथ इस परियोजना के नाम पर विचार कर रहे थे तो किसी ने इनका नाम 'रस' सुझाया तो किसी ने 'महाशय' बताया। तभी डॉ. महेशचन्द्रा ने अर्जुन के सारथी श्रोकण का नाम लिया तो सब के मुँह से एकदम निकला- 'सारथी'। बस तब ही गया कि इनका नाम 'सारथी' और 'वाहन' रखा जाएगा। अब ये दोनों 'ई' यथा नाम, तथा गुण' की कहावत चर्चित कर रहे हैं।

The Punjab Kesari rounds it off with a detailed news feature

Congratulating MoRTH and NIC on the momentous achievement, he expressed the hope that the SRs and the NR would be utilized to provide transparent citizen-centric services. He would not be disappointed.

Once the State and National Registers were in place, the emphasis was on providing services and facilities both to the Citizen and the Government. To be able to do so, NIC has designed and developed the National Transport

Portal. These developments together opened up many more new avenues for delivery of Government-to-Citizen (G2C), Government-to-Business (G2B) and Government-to-Government (G2G) services. Citizens and government officials could be provided direct access to vehicle and owner details depending on their level of authorization. It was also the harbinger of the era of online transaction be it in terms of money or in terms of information. The impact would be

wide ranging and the media was quick to catch on in Delhi and in all the states. The many media reports bear testimony to the fact.

While the Delhi edition of the Times of India focussed on the National Register being able to detect fake licenses and stolen vehicles, the Chennai edition of the same newspaper commented on the effect it would have on driving behaviour on the roads.



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*Dr Mahesh Chandra, DDG NIC and NIC National Head for the National Transport Computerization Project, receiving the Skoch Financial 2013 Inclusion Award for ICT-based Innovation to the National Informatics Centre for the Check Post Solution of Vahan*

## What is in a Name?

A news feature in Punjab Kesari summed it all up with the slogan-like headline which declared – *Sarathi and Vahan have changed the Transport Department Work-place*. The feature goes on to say how the names *Sarathi* and *Vahan* were christened after Lord Sri Krishna and his chariot, and how the significance behind the names has borne the project towards success from one milestone to another.

## Earning Laurels and Appreciation

The effectiveness of the National Transport Computerization Project has not gone unnoticed. It has earned many certificates of appreciation

and awards at all levels, notable amongst which are the Skoch Challenger 2010 Award and CSI Nihilent e-Governance Award, 2007-08 for best e-Government Department to the Kerala Motor Vehicles Department. The CSI Nihilent e-Governance Award again came the Project's way in 2010-11.

On January 5, 2013, as a harbinger of more good things to come, the Skoch Group conferred its '**Highest Independent Honour in India**' the **Financial 2013 Inclusion Award for ICT-based Innovation to the National Informatics Centre for the Check Post Solution of Vahan**.

## Setting an Example for Kenya

In what could be viewed as ultimate recognition, a team from Kenya, comprising officials from the Ministry of Transport, Police and Revenue, visited the Punjab to study e-Governance initiatives in the Transport Sector in India. The team, led by Mr. Francis Meja (Registrar of Motor Vehicles, Kenya) felt that similar system could be implemented in Kenya.

Thereafter, the Kenyan team also visited NIC New Delhi where they had detailed discussions with Deputy Director General Dr. Mahesh Chandra on the technical, functional and implementation aspects of the Project.



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## On the Roll

- **In Andaman and Nicobar Islands**, the MOU for *Smart Cards for Driving Licenses* has been signed between NICS and Department of Transport, Andaman and Nicobar Administration recently and the LOI has been issued to the empanelled agency. Issue of smart cards for Driving License is targeted to go live by the end of January 2013.
- **In Assam**, *state permit computerization* has been started from November 2012. The state permit module of *Vahan* has already been implemented in three District Transport Offices (DTOs) and the rest of the 23 DTOs are planned to be covered by January 2013.
- **In Bihar**, *Computerised On-line Testing for Learner's License* using the STALL Module of *Sarathi* is to be implemented in the first week of January 2013 in the Patna DTO as a pilot project, and is planned to be rolled out in all other districts by March 2013
- **In Chandigarh** new *Customized Vehicle Enforcement Software* was implemented on October 1, 2012 at the State Transport Authority, Chandigarh to automate the complete process of enforcement.  
Touch Screen-based "*Choice Registration Number Availability System*" was installed at the RLA Office, Chandigarh on October 31, 2012 to provide the facility to check availability of Choice Registration Number and the corresponding charges to be paid.
- **In Chhattisgarh** smart card-based DL and RC are being issued since May 2012. The *Sarathi* City Centre with all comforts for the public has been established in the office of the Transport Commissioner exclusively for issue of LL and DL.
- **In Jharkhand**, preparation for *online payment of road taxes* is at an advanced stage, and implementation is planned by January 2013.
- **In Manipur**, the State Government has selected *Vahan* as the application for *Final Acceptance Testing (FAT)* of the newly set up Manipur State Data Centre (MSDC).  
The *Vahan* database for Imphal West DTO is now hosted at MSDC and the other DTOs are to follow suit soon.
- **In Mizoram**, the *smart card based DL&RC and Enforcement Module (Vahan and Sarathi)* have already been implemented in a DTO from May 2012 and November 2011 respectively, and the rest of the 7 DTOs are planned to be covered by March 2013. State permit computerization has been started from April 2012 in all the 8 DTOs.
- **In Tripura** *Handheld Terminal for checking Driving License details* and further imposing enforcement by the Traffic Police to be introduced by January 2013.
- **In Uttar Pradesh**, issue of *smart card-based Driving Licence* using *Sarathi* software is planned to be started in 10 RTOs/ARTOs from the second week of January, 2013. The remaining 63 transport offices will be covered by May 2013.  
MOU for *Smart Cards for Driving Licenses* has been signed between NICS and Department of Transport, Uttar Pradesh recently.
- **In West Bengal**, the Transport Department is in the process of tender for implementation of *smart card* for RC and DL in all RTOs.



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## ODI – Yahi hai Right Choice for DI

**Shri. Nagaraj Kulkarni**, Technical Director. NIC and a core member of the Data Interface team working for the Transport Computerization Project, has been working fairly consistently with *Oracle Data Integrator* over the last few years.

He has had the practical experience of actually using the product as the backbone for creating The National Transport Register. He presents his views on how the tool can be better utilized for data integration.

**Oracle Data Integrator (ODI)** is an Extract, Transform and Load (ETL) tool that Oracle acquired when it took over Synopsis's Data Conductor. Data Integrator is being positioned as being the ETL tool for Business Intelligence (BI) and Data Warehousing (DW) projects and is part of the *Oracle Fusion Middleware*.

Taking a step back and looking at the ETL process - Extract data from source databases, Transform into new form and ultimately Load into target databases, I feel that there was a lot of complexity unnecessarily created by decomposing the process into a number of program units or mappings. So much so that this process created the following problems:

- A large amount of processing time was wasted on the intercommunication of these mappings.

- Unnecessary temporary storage objects were created and populated in the database.
- A separate technology was required to orchestrate all the mappings.
- It encouraged multiple developers to work on the ETL process thereby increasing the risk of miscommunication and mis-aligned interfaces

The ODI provides a silver-bullet solution by virtue of its design based on the One Mapping Paradigm (OMP) - putting all your ETL code into one mapping in order to achieve the goal of encapsulating entire ETL routine into one mapping or program unit. The OMP just helps to release mapping straight into production. There is no system or integration testing required as there is only one piece of code. UAT is further bypassed as unit

testing verifies whether the entire ETL process works or not.

The ODI's supremacy when compared with other major players is not only in OMP based ETL (actually it uses E-LT and make further lighter at sources) design but also many more features:

- Capture new and changed data from a heterogeneous database and targets
- In-database quality checks for data, firewalls erroneous data
- Keeps all error handling in one place, defined as data rules, rather than being scattered all over the mappings
- Source data from non-Oracle databases using native utilities
- Capture data from, or publish transformed data to, a Web Service (SOA-enabled service)

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- o Publish real-time ETL processes that respond to data pushed through them high-volume, high-performance batches
- o Event-driven, trickle-feed integration processes

A Gartner Report also proves it (Refer Figure 1).

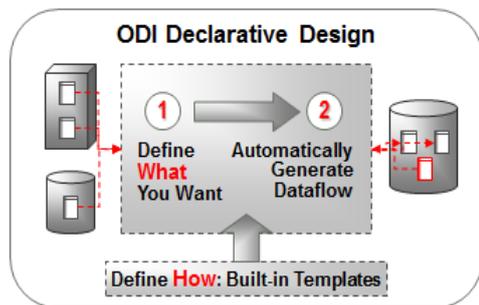


Figure 1: Declarative Design

In data integration project which involves heterogeneous data sources and targets, the ODI fares better by its declarative design. That means that the integrator have to just define what needs to be done and the ODI automatically generates the data flow. This makes the integrator's life easy and productive. (Refer Figure 2)



Figure 2: Gartner ETL Magic Quadrant

Other features listed below only make it a better middleware tool for online data warehousing:

- o Import / Export for bulk data
- o Versioning/Solutions for Software Life Cycle Management
- o Multiple Repositories – separating Work and Master repository
- o Customised / Tuned Knowledge Modules – wide range of databases,
- o Agent Load Balancing / Scheduler
- o Repository Explorer / Metadata Navigator – easy handling of interfaces by not so good IT-Savvy staff
- o Security/Profiles –Roll based access to repository.



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## Know the Individual



### *Asir Edwin M*

Technical Director, NIC Kerala

**Asir Edwin M**, our Project Co-ordinator-cum-Correspondent from Kerala hails from Nagercoil, the District Headquarters of Kanyakumari District of Tamil Nadu. He has done his Masters in Physics from the Madurai Kamaraj University and his PGDCA from Bharathidasan University of Trichy. He presently holds the post of Technical Director in NIC Kerala.

Mr Edwin and his wife make a NIC Couple – his wife **J Violet CrysolYTE** also work for NIC Kerala as a Senior Systems Analyst. They are blest with a daughter **A Beryl Joylin** and a son **A Blesswin Samuel** both of whom are pursuing BTech degrees at Trivandrum.

Mr Edwin likes working in a team – motivating the team and being motivated by the team, as he puts it. So does he relish taking fish curry with rice and tapioca.

He holds the Holy Bible close to his heart and enjoys finding the truth from the 'Word of God'. A man who is dedicated to the Almighty finds dedication in the National Transport Computerization Project because:

*"It gives me the opportunity to work as a team at the state and national level; learn from the other state coordinators and national leaders; and improve citizen-centric service through ICT"*

Paivahan NextMile salutes Asir Edwin M – the man and his work.



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