

CASE STUDY: Motor Vehicle Management Systems

Bangladesh, Bangladesh Road Transport Authority (BRTA)

CNS' Motor Vehicle Management System is an advanced software solution that oversees the end-to-end processing of vehicle registration, tax, tokens, route permits and provisional licenses in Bangladesh. Already active with the Bangladesh Road Transport Authority (BRTA), the comprehensive system combines several software components into a centralized national system. CNS' Motor Vehicle Management solutions combine modern hardware and software technologies to enhance the BRTA's vehicle database whilst working in tandem with other CNS solutions to maximise revenue from taxes, fees, and toll charges.

Our History in motor vehicle tax and fee collection

CNS has been developing software solutions for the Bangladesh Road Transport Authority for the past decade. In that time, CNS has overseen the development and expansion of the Motor Vehicle Management System on behalf of the BRTA..

The Motor Vehicle Management System - which began development in 2011 - has had CNS develop necessary hardware facilities at the BRTA's head office and Dhaka alongside 78 other specialised 'circles' operated by the Authority elsewhere in Bangladesh. CNS' Motor Vehicle Management System continues to operate across the 62 districts of Bangladesh at all BRTA network connected branches and banks.

Operator Benefits

Thanks to the expansive scope of CNS' Motor Vehicle Management System, the BRTA's vehicle database has seen a significant increase in scale and effectiveness. The centralized nature of the system has allowed the BRTA to collate an unprecedented amount of information into the BRTA's central vehicle databases. The system collates information on vehicle registration, tax, tokens, route permits, provisional licenses. Additionally, the system encompasses information on vehicle health and whether vehicles are road legal; allowing the BRTA to administer fines, tolls, or charges more efficiently than ever before.

The system, designed, implemented, and maintained by CNS, operates across all BRTA facilities in Bangladesh. Inter-related and cross-functional VPN and fibre optic facilities link all these facilities across the country to ensure the network remains secure from potential risks.

CNS Technology

CNS' Motor Vehicle Management System combines several interlinked processes into a single, easy-to-use system. Using forward-thinking software and tested hardware technology, the Motor Vehicle Management System has created a uniform vehicle database like no other ever designed in Bangladesh. The system is interlinked with the Motor Vehicle Tax and Fee Collection System as well as providing information for toll plazas using CNS' Modern Computerized Toll Management System.

Intelligent database technology is the core of CNS' Motor Vehicle Management System. At the centre of the solution is the Bangladesh Road Transport Authority Information System (BRTA-IS) that allows the BRTA to collate all registered vehicular information in Bangladesh into a single database. The database - developed wholly by CNS - is entirely centralized and collates information on vehicle registration, tax, tokens, route permits, provisional licenses, web-based examinations, and online evaluations. Additionally, the digital platform created by CNS allows the BRTA, Police or any other

relevant parties cross reference information stored in the database to identify vehicles, ownership, and any related information. Consequently, Motor vehicle tax and fee collections performed using the Motor Vehicle Tax and Fee Collection harness information stored on the BRTA-IS central database. The network leverages CNS' cloud computing technology from EI Connectivity through a secured intranet Virtual Private Network (VPN). All the system's required redundant network connectivity (WAN) at the BTRA's headquarters and their 62 district offices.

CNS developed specially designed hardware to support the system. A new data centre at the BRTA's headquarters supports both the Motor Vehicle Management System and the Motor Vehicle Tax and Fee Collection System. This centre added 200 new workstations to operate and monitor the system. Furthermore, accompanying 24/7 Disaster Recovery Centres were also installed at all the BRTA headquarters and at regional offices to protect the system in case of a power outage, natural disaster, or any other similar disruption. The data centre hosting the Motor Vehicle Management System developed by CNS uses an Oracle 11g Release 2 Grid Computing Database. Similarly, CNS used the following tools to build and operate the Motor Vehicle Management System and BRTA-IS solutions: HTML5/CSS Website development technology, Oracle Java, Java Script, Oracle MySQL, ASP, PHP, Spring Framework, AJAX, JSP on Linux, Microsoft Project, Jasper Report, Oracle Fusion Middleware Weblogic Server and Tomcat.