DATAMATICS AFC SYSTEM FOR LUCKNOW METRO

- Multi-channel and multi-modal ticketing and transit interface
- State-of-the-art contactless card-based fare collection system
- Web presence that is accessible using a mobile application

Lucknow Metro Rail Corporation (LMRC) is one of the most ambitious Mass Rapid Transit System (MRTS) projects deployed by the Government of India and Government of Uttar Pradesh. It is the fastest executed metro rail project so far in India while complying with all passenger convenience and safety parameters and setting new benchmarks.

This project seamlessly connects the Lucknow city through all its transit points thereby speeding up the business and commercial activities in this city. This fast, reliable, and environment friendly transit system has become the city's lifeline.

TRANSPORT REVOLUTION IN LUCKNOW CITY

LMRC has sparked a new revolution in the city of Lucknow, the capital of Uttar Pradesh. With a population of over **3 million**, the city is a major commercial and trading centre in the state. Through this LMRC project, the city has received a world class MRTS, which is convenient, safe, cost-effective, and affordable to the average Indian citizen. It has reduced the commuting time by two thirds thus contributing to rapid urbanization. The MRTS is envisioned to contribute to the rapid growth and urbanization of the Lucknow city in the next couple of years. Datamatics has been the prime technology provider to the LMRC project along with its partner Mikroelektronika.

DATAMATICS IMPLEMENTS AFC SYSTEM FOR LMRC

Datamatics is a technology company that builds intelligent solutions for data-driven enterprises to improve their productivity and customer experience. It is headquartered in Mumbai with development centres across Tier-1 and Tier-2 Indian cities. So far, the company has participated in 20+ MRTS projects globally with focus on latest technologies in the AFC ecosystem.

Datamatics has implemented a state-of-the-art Automatic Fare Collection (AFC) system at LMRC, which is designed to be highly secure, scalable, and reliable. The system is capable of handling large passenger volumes without any degradation in the response and user experience. The modularity of the system allows integration with new technologies and fare media, such as QR Code, NFC, etc., thus enhancing the overall capability of the system and reducing the total cost of ownership for the transit operators.

The LMRC AFC system accepts MIFARE Ultralight C based contactless tokens and MIFARE DESfire contactless cards as fare media. All the smartcard reader/writer hardware deployed within the system is capable of accepting NFC fare media as well. As an alternate fare media technology, the system also accepts Sony Felica contactless tokens and contactless smart cards. The transactions and communication between the fare media, front end devices and systems are made fully secure through the use of unique security keys and Secure Access Module (SAM).

The Central Clearing House System (CCHS) at Transport Nagar is being designed to handle voluminous transactions and provide clearing, settlement, and host of other functions to other transit operators within the region. The CCHS is capable of handling up-to 7 million transactions per day.

AFC SYSTEM

The AFC system provisioned consists of:

>> Passenger access and interface devices such as Ticket Vending Machines (TVM), Recharge Card Terminal Machines (RCTM), Add Value Machines (AVM) provided by Mikroelektronika

>> Smart gates with contactless access provided by Mikroelektronika

>> Readers supporting SmartCards compliant to ISO 14443 A, B, C MIFARE, and NFC phones

>> Counter access solution such as Ticket Office Machines (TOM), Excess Fare Office (EFO) machines

>> CCHS is being designed to support 32 operators

The AFC hardware meets **world-class ergonomic standards** and can be accessed by adults, children, as well as wheel-chaired disabled people.

FACTS AND FIGURES

Phase North-South corridor (1A – Initial Phase)

>> Area covered: 23 kms

>> Number of stations involved: 21

>> Number of Ticket Vending machines in LMRC: 101

>> Number of Recharge Card Terminal Machines (RCTM) in LMRC: 17

Phase East-West corridor

>> Area covered: 12.8 kms

>> Number of stations involved: 11

VALUE BROUGHT TO THE TABLE

>> Reduced operational costs

>> Monitored access and transit

>> GoSmart – One City One Card, multi-modal & multi-operator

>> Proposed non-transit service payment by GoSmart card, such as Lucknow city property tax, BSNL mobile bill payment, etc.

ONE CITY ONE CARD

LMRC AFCS — METRO — CITY BUS — INTER CITY BUS

*Proposed

TICKETING MEDIA SUPPORT

The solution uses smart ticketing media to prevent fraud and revenue leakage. Smart-keys usage in the solution inhibits editing or copying of the ticketing media by fraudsters.

This solution comprises:

>> MIFARE Ultralight C Contactless Tokens, Sony Felica Contactless Tokens

>> MIFARE DESfire and Sony Felica Contactless Smartcards

>> NFC tickets

>> Mobile

KEY AWARDS & RECOGNITIONS

🏆 Gartner Peer Insights Customers' Choice 2019 for Robotic Process Automation

🏆 2019 IBM Asia Pacific Excellence Award for Top Transformation Business Partner

🏆 Features in IAOP 2019 Global Outsourcing 100 List of the world's best outsourcing providers

🏆 Gold Stevie Award 2019 for Robotic Process Automation

🏆 Rail Analysis India Awards 2019 for Automated Fare Collection technology

🏆 CIO Choice 2019 Recognition for Robotic Process Automation

ABOUT DATAMATICS

Datamatics is a technology company that builds intelligent solutions for data-driven enterprises to improve their productivity and customer experience.

The company portfolio spans across Information Technology Services, Business Process Management, Engineering Services and Big Data & Analytics, which are powered by Artificial Intelligence.

Datamatics also has established products in Robotic Process Automation, Advanced Analytics, Business Intelligence and Automated Fare Collection. Datamatics services over 550 clients across diverse verticals including Banking & Financial Services, Insurance, Manufacturing, Transport, Travel & Hospitality, Media & Publishing, Retail, and e-Commerce. Headquartered in Mumbai, the company has strong presence in the USA, Australia, Asia, Europe, and the Middle East with global employee strength of 10,000+.

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