



SIGNALLING OVERVIEW

Engineering Excellence.
Powering Safe Mobility.



ENGINEERING
EXCELLENCE



INNOVATION
DRIVEN



RELIABLE
SOLUTIONS



NATIONWIDE
IMPACT



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ABOUT US



Commenced operations in **1986**.



Specialized, **Rail Focused**, Indian Multinational



A **Global Consulting** organization with over three decades of specialized Railway experience.



Executed Projects in **18 countries** across **5 Continents**.

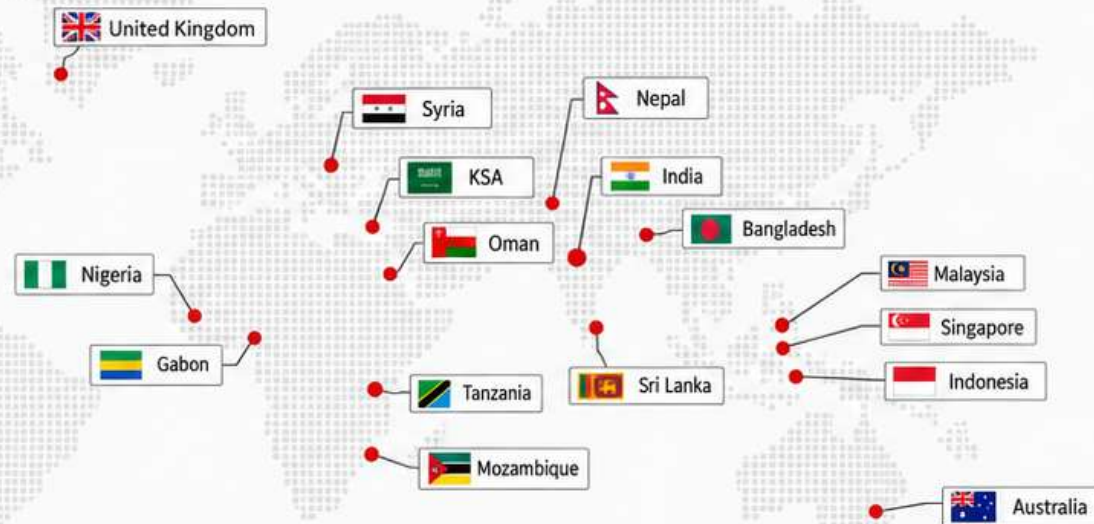


Industry Recognition:

- CEAI National Award for Excellence in Project Engineering 2024
- Best Services Company from Industries and Commerce Department - Government of Telangana – 2024
- Iconic Brand of Year – 2023
- National Award for Consumer Insight of the year 2023.
- Winners of 5th edition of Iconic Brand of the year award 2023.
- INDIA 5000 BEST MSME AWARDS – 2023.
- Leaders of Global Magazine as 10 Most successful Consultant Companies of 2022
- SME Empowering India Awards – 2021
- Rail Analysis SME of the Year- 2020
- SIDBI-ET India MSE Best Exporter Award – 2019
- Corporate Excellence Awards, CV Magazine – 2018
- INDIA 5000 Best MSME Awards – 2017
- India Small Giants, MSME's of India – 2013-2014
- BOI India SME 100 SME Award – 2012
- EPC World Award, Best Emerging Consultant – 2011
- EPC World Award, Best Railway Consultant – 2010



GLOBAL EXPERIENCE



1200+
Completed
Projects



25+
Urban Transit
Assignments



500+
Railway
Professionals

ISO 9001

BUREAU VERITAS
Certification



0008



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SPECTRUM OF SERVICES



Planning



Design



Project
Management



Advisory



FREIGHT



SUBURBAN



METRO



INTER-CITY



TRACK



STRUCTURES



SIGNALLING &
TELE-COMMUNICATION



POWER SUPPLY &
TRACTION



ROLLING STOCK

SIGNATURE PROJECTS - SIGNALLING



TPWS DESIGN

Detailed Design for Signalling rehabilitation

Detailed Design Consultancy for Signalling Upgrades in the United Kingdom

 **Client:** Jarvis Rail, DEG Signals **Duration:** 2002, 2012**Services:**

- Detailed Design Consultancy for signalling system and T&C Planning for 2575 km of railway network, United Kingdom.
- Detailed Design consultancy for 300 signals with Train Protection and Warning System (TPWS), United Kingdom.



DETAILED ENGINEERING DESIGN FOR TWO SECTIONS OF EAST-WEST ELECTRIFIED RAILWAY



Client: Government of Nepal



Duration: 2016 - 2024

SERVICES:



- Design a comprehensive and integrated signalling and train control system incorporating ATP, ATS, and ATO to ensure safe and efficient operation of high-speed electrified trains, adhering to performance-based international standards.



- Develop detailed engineering designs and construction-ready drawings for signalling components, ensuring seamless integration with traction power supply and telecommunications infrastructure, and account for related power and operational requirements.



BARDIBAS — INARUWA SECTION, NEPAL

Signalling system of East-West corridor, Nepal



DETAILED DESIGN SERVICES FOR REHABILITATION OF KULAURA - SHAHBAZPUR SECTION OF BANGLADESH RAILWAY



Client: Government of Bangladesh



Duration: 2015 - 2018

Services:

- Prepare comprehensive detailed design and technical drawings for the signalling system in accordance with Bangladesh Railway standards while incorporating international best practices to ensure safety, interoperability, and long-term sustainability, including layout plans, interlocking logic, equipment specifications, and integration details with other subsystems.
- Provide continuous technical guidance and support to the contractor during execution, clarifying design intent and resolving technical issues during installation.



DETAILED DESIGN OF KULAURA - SHAHBAZPUR SECTION

Signalling system of Sylhet Railway Division, Bangladesh

Consulting Services contract for Construction Supervision of Akhaura - Laksam Double Track Project



Client: Asian Development Bank and
Govt. of Bangladesh



Duration: 2016 - Ongoing

Services:



A modern centralized signalling system is being installed to support the dual-gauge double-track configuration, enhancing train safety, increasing line capacity, and enabling efficient passenger and freight operations with advanced interlocking, automated signalling, and fail-safe mechanisms.



Integration with track, power, and communications infrastructure is monitored closely to ensure seamless system performance.



SUPERVISION OF AKHAURA - LAKSAM PROJECT, BANGLADESH
Project Management, System Integration, and T&C of systems

9 TCAS INSTALLATION AND INTEGRATION

Supervision of indigenous TCAS installation and T&C

PROJECT MANAGEMENT SERVICES for

Execution of **KAVACH** work in **NAD-KOTA-MTJ** section (549 km) of West Central Railway



Client: West Central Railway Kota



Duration: 35 Months
(23 Months Construction + 12 Months DLP)



SERVICES

- Survey, design, supply, installation, testing and commissioning of onboard KAVACH equipment in 87 locomotives.
- Supply, installation, testing and commissioning of trackside KAVACH equipment at stations, LC Gates and IBS locations.
- Erection of towers and associated civil/electrical works for KAVACH in NAD-KOTA-MTJ section.
- OFC route diversity works including supply, trenching/duct laying, splicing, termination, etc. for two 48-fiber OFC routes.



GENERAL CONSULTANCY SERVICES for Chennai Metro Rail Phase 1



Client: Chennai Metro Rail Ltd. (CMRL)



Duration: 2009 - 2021



About project: 54 km distance with 41 stations and 42 train sets of total 168 coaches; Equipped with ATO, ATP, ATS.



Services:

- Define signalling concepts such as CBTC and review interlocking and train control designs; assist in tender documents and technical bid evaluation.
- Coordinate interfaces between signalling and rolling stock, telecom, traction, and SCADA.
- Develop and monitor integration plans, FAT/SAT procedures, and cross-system testing.
- Advise on telecom systems such as PA, CCTV, radio and their interfaces with signalling and OCC.
- Oversee field testing, trial runs, safety validation, and CMRS readiness.
- Ensure smooth integration of signalling with SCADA and centralized control systems (OCC/BCC).



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GENERAL CONSULTANCY SERVICES for Chennai Metro Rail Phase 2



Client: Chennai Metro Rail Ltd. (CMRL)



Duration: 2021-Ongoing



About project: 119km distance with 128 stations and 138 train sets of total 414 coaches; Equipped with GoA4, UTO.



Services:

- Develop GoA4-compliant signalling architecture using CBTC; implement unattended train operation (UTO) with ATS.
- Coordinate interface designs between signalling, rolling stock, traction, telecom, and PSD systems.
- Prepare and review signalling tender documentation, technical proposals, and compliance matrices.
- Support integration of depot control systems.
- Define and validate FAT/SAT protocols across multi-system environments.
- Supervise testing, commissioning, safety validation, and CMRS documentation.
- Ensure full signalling and SCADA integration for seamless real-time control, energy optimization, and passenger information systems.



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12 MRTS SIGNALLING INTEGRATION, TESTING & COMMISSIONING

Project Management, System Integration and T&C of MRTS Signalling

GENERAL CONSULTANCY SERVICES for Delhi Metro Phase 4

 **Client:** Delhi Metro Rail Corporation (DMRC)

 **Duration:** 2021-Ongoing

 **About project:** The Delhi MRTS Phase-IV project features advanced CBTC-based signalling and train control systems, with international consultants overseeing technical supervision, system integration, and safety compliance.

Services:

- Design, review, and implementation of a Communication-Based Train Control (CBTC) signalling system for safe and efficient train operations across the three metro corridors.
- Examination and validation of signalling control tables, interface design with Platform Screen Doors (PSDs), and integration with other railway systems such as traction, telecom, and rolling stock.
- Supervision of installation, testing, and commissioning of signalling equipment to ensure compliance with technical specifications, safety standards, and operational requirements.



PROJECT MANAGEMENT SERVICES for Standard Gauge Railway in Tanzania



Client: Tanzania Railway Corporation



Duration: 2017-Ongoing



About project: Greenfield SGR of 1300km with ETCS L2, ATP, Radio Block Centre, Computer-Based Interlocking via GSM-R.



Services:

- Develop ETCS Level 2 signaling and train control architecture using GSM-R; implement centralized traffic control using Radio Block Centers (RBCs) and computer-based interlocking.
- Coordinate system interfaces between signaling, rolling stock, telecom, traction power, level crossing protection, and SCADA systems.
- Integration of onboard and trackside ETCS subsystems, ensuring interoperability with rolling stock and OCC systems.
- Define and validate FAT/SAT procedures across signaling, onboard equipment, and telecom systems.
- Supervise integrated testing, dynamic commissioning, and safety validation of train control and radio communication functions.
- End-to-end integration of signaling with SCADA, rolling stock diagnostics, and central operations systems.



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Pre-Bid Consultancy Services for Systems bid of Hafeet Rail



Client: OHI Telecom, Oman



Duration: 2024

Services:

- Preparation of tender designs, BoQs, and costs estimates.

Systems Included:

- | | | | |
|--------------------------|-------------------------|---------------|------------------------------|
| • GSMR* | • Cable Way | • NMS | • Telephone System |
| • Voice Recording System | • CCTV | • PAVA System | • Telecom Power Distribution |
| • Access Control System | • Master Clock | • PIS | • Wayside Equipment Rooms |
| • BMIS | • Multi-Service Network | • TCS+ | • FAS |



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THANK YOU

Partnering Progress.
Connecting **Possibilities.**



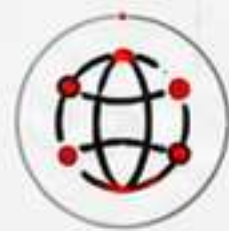
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