



A Showcase of Design & Engineering



About Us

Commenced operations in 1986.

Specialized, Rail Focused, Indian Multinational

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

Executed over 850 Projects in 15 countries across 5 Continents.

Industry Recognition:

- 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
- Winner - Rail Consulting Company of the Year 2018
- INDIA 5000 Best MSME Awards – 2017
- Winner of Top 40 SME Award – 2013, 2014
- India Small Giants, MSME's of India – 2013-2014
- BOI India SME 100 SME Award – 2012
- EPC World Award, Best Emerging Consultant – 2011
- Winner - Best Railway Consultant of the Year – 2011
- EPC World Award, Best Railway Consultant – 2010



850+

Completed Projects

18

Urban Transit Assignments

150+

Railway Professionals



Spectrum of Services



Planning



Design



**Project
Management**



Advisory



FREIGHT



SUBURBAN



METRO



INTER-CITY



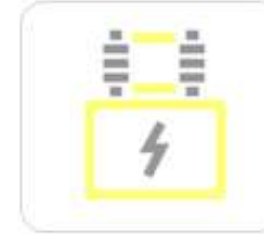
TRACK



STRUCTURES



**SIGNALING &
TELE-COMMUNICATION**



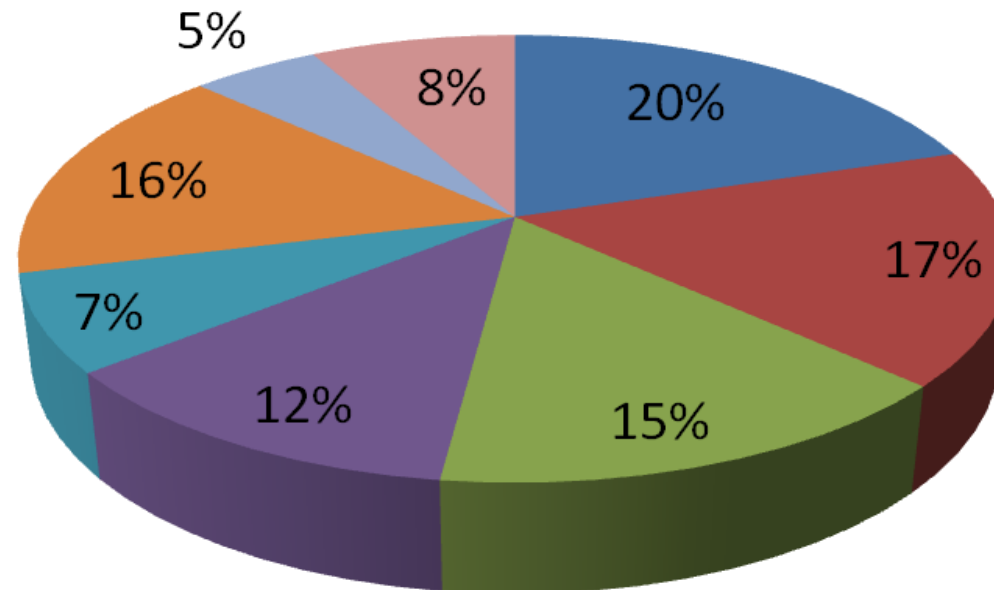
**POWER SUPPLY
& TRACTION**



ROLLING STOCK

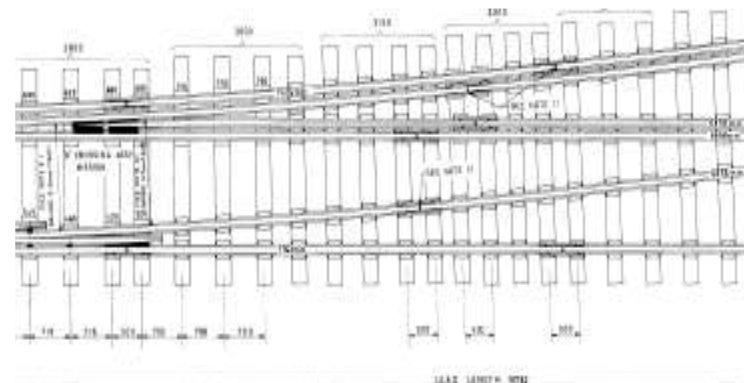
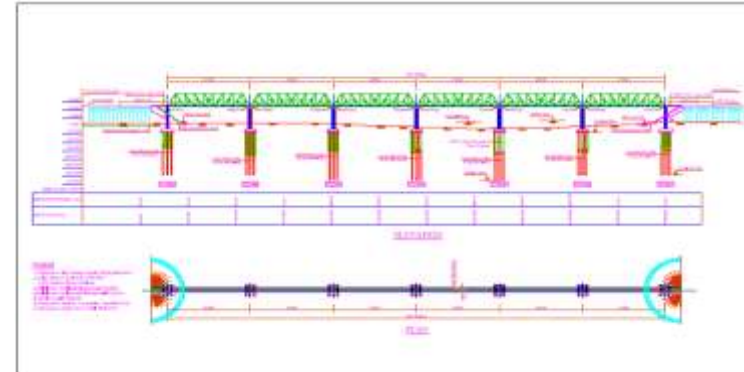
Resource Strength – 170+

- Civil & Structures
- Electrification
- Rolling Stock
- Systems Integration
- P.Way
- Signal & Telecom
- Traffic and Rail Operations
- Administration



Civil Engineering & Permanent Way

- Alignment Corridor definition
- Utilities Mapping
- Review of topographical survey
- Review of geotechnical survey
- Alignment mapping
- Station mapping
- Design & Detailed Engineering of Bridges & Tunnels
- Track Geometry Design and Detail Engineering
 - Alignment Design
 - Curve Design
 - Gradient Design
 - Track type – ballast / ballast less
- Viaduct design.



Key Experience – Alignment & P Way

- Alignment & Track Design of new railway line of 100 kms between Dalli Rajhara and Rowghat, India
- Preliminary Alignment and track Design of 600 Kms Sarawak Railway Network, Malaysia
- Alignment and track design of 200 kms new railway line between Dhaka & Chittagong, Bangladesh
- Alignment and track design for 40 kms of elevated and underground Metro System in Chennai, India.
- Alignment and Track design for regional rapid transit system between Delhi – Alwar 200 kms , India.
- Alignment and Track design for 80 Kms Kulaura – Shahbazpur new railway line, Bangladesh
- Preliminary design of alignment and structures for 260 Kms of Etihad Rail Project, UAE



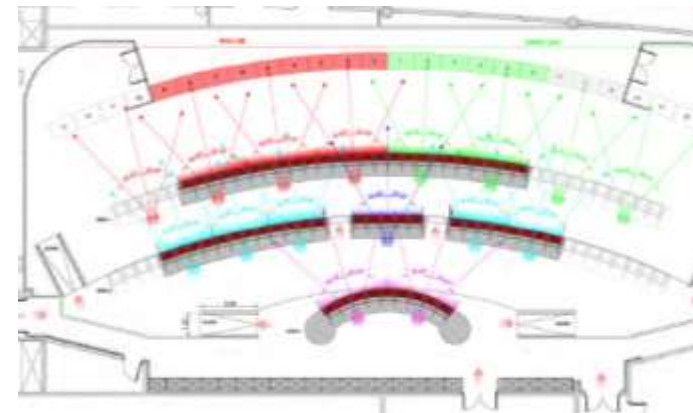
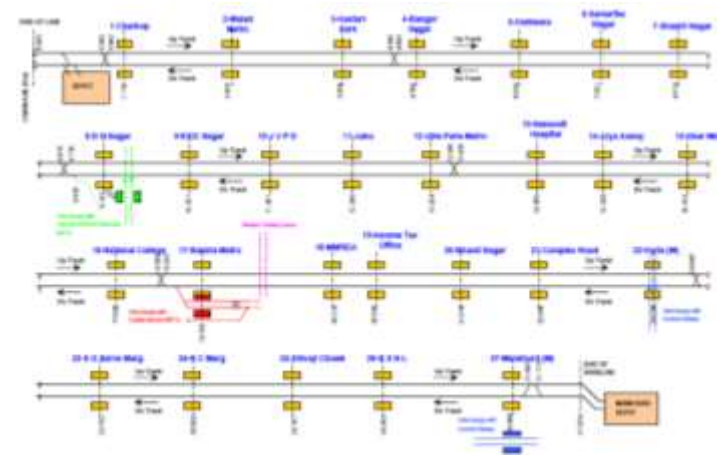
Key Experience – Bridges & Viaducts

- Preparation of Bridge Design & Maintenance Manual for Malaysian Railways
- Detail Design of 9 bridges on Dalli Rajhara and Rowghat new line, India
- Detail Design of 64 minor bridges on 40 km coal freight line at Lalitpur, India.
- Preliminary Design of 100 bridges on Dhaka – Chittagong new line, Bangladesh.
- Preliminary design 3 major bridges on freight line at Sonadih, India.
- Preliminary Design of 10 major and 120 minor bridges between Iqbalgarh – Vadodra of Dedicated Freight Corridor. India
- Detail design of viaduct for Dhaka Metro
- Detail Design of 25 bridges on Kulaura – Shabazpur section of Bangladesh Railway



Train Operation & Operation Control

- Review of ridership data.
- Determination of optimum headway for peak & off-peak periods.
- Track layout / configuration including turnouts, crossovers & sicklines.
- Depot locations size and activity stabling / maintenance
- Operation safety aspects & parameters.
- Train control location & operations
- Ergonomic Studies
- Operations Control Center layout
- Detail Design of OCC



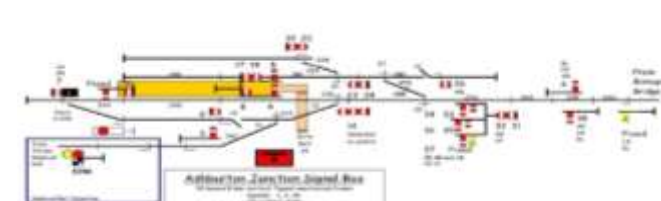
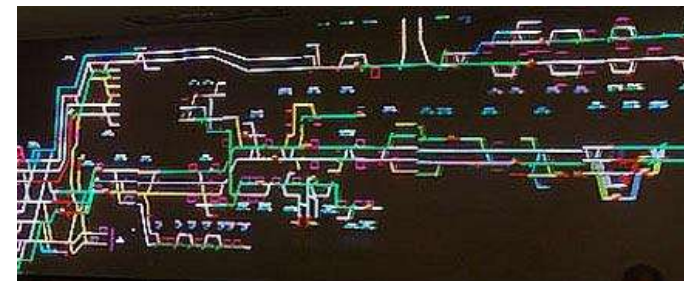
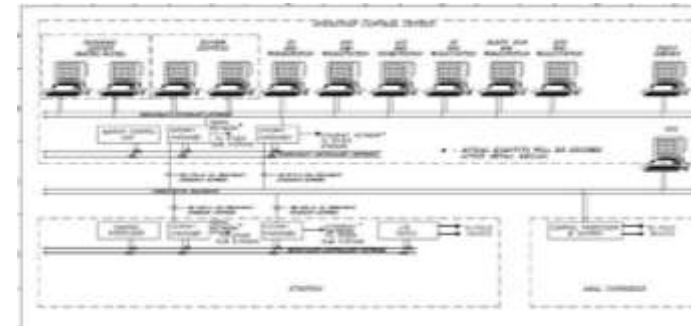
Key Experience - Train operations

- Train Operations plan and preliminary time tabling for Ahmedabad Metro. India..
- Train Operations plan and Control Centre design for Tanjung Manis – Samalaju line, Malaysia.
- Traffic Study and Train Operations plan for Dhaka – Chittagong Line, Bangladesh.
- Train Operations plan and control centre design for NCR RRTS, India.
- Train Operations plan and time tabling for Lagos Monorail, Nigeria.
- Train operations plan, time tabling and control centre design for Kerala RRTS, India.
- Traffic Study and Train operations plan for Colombo Suburban Rail project. Sri Lanka



Signal & Telecommunications

- Selection of control types (ATP, ATO etc.)
- Selection of telecommunication system.
- Design of Signaling Plan and design specification
- Scheme plan preparation
- Control tables
- Panel Interface designs
- Station Working Rule Diagram
- Mechanical and relay based interlocking designs
- Electronic Interlocking designs
- Power Supply diagrams
- Route Control Chart
- Cable Corrage Plan
- Location Case Designs
- MCB –OD Level crossing designs
- Designs of Location Area Plan
- SCADA system design



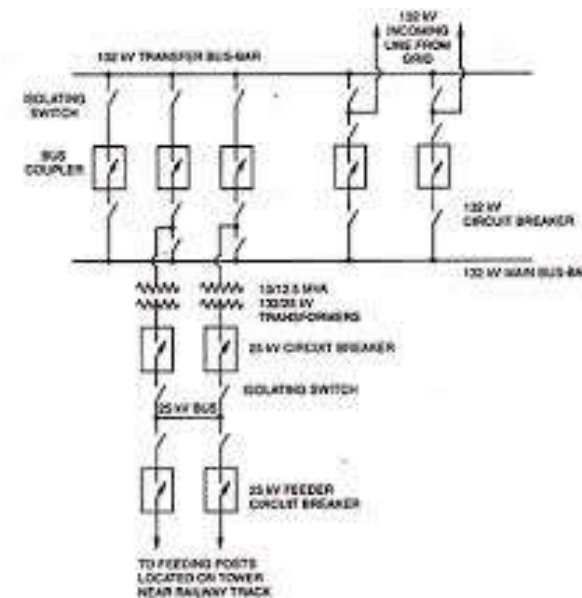
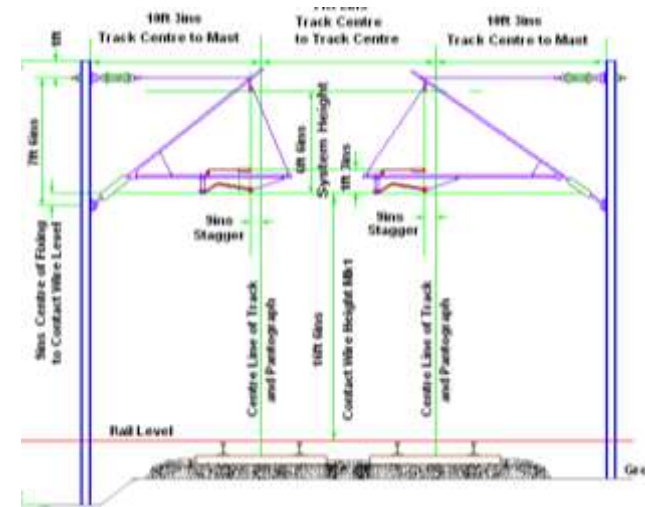
Key Experience- Signal & Communications

- Signalling Plans for 7 stations on Dalli rajhara – Rowghat new line. India.
- Signalling plans for 20 stations between Dhaka – Chittagong . Bangladesh
- Signalling plans for 10 stations between Samalaju – Tanjung Manis, Malaysia.
- Circuit design for 40 TPWS locations on Network Rail, UK
- Designs of resignalling for 21 stations, Rail Track plc, UK.
- Signal & Communication system design for Chennai Metro, India
- Signal & communication System design for Delhi – Alwar RRTS.
- Signal & Communication systems design for Bardibas – Inaruwa Electrified Railway, Nepal
- Signal & communication System design for Colombo Suburban Rail Project – Sri Lanka



Power & traction

- Assess type of Traction system (OHE / 3rd Rail)
- Assess Power supply distribution system
- Assessment of Traction Power Requirement
- Assessment of Grid Sub-stations
- Design of Traction Sub-stations
- OHE Designs
 - Sectioning Cum Wiring Diagram
 - Pegging Plan
 - Layout Plan
 - Cross Section Drawing
 - Structure Erection Drawing
- General Power Supply Designs
 - Auxiliary Power Supply
 - Traction Distribution
 - E&M Services
- Design of Traction SCADA
- Earthing & Bonding Arrangements
- EMC/EMI Mitigation Measures



Key Experience – Power & traction

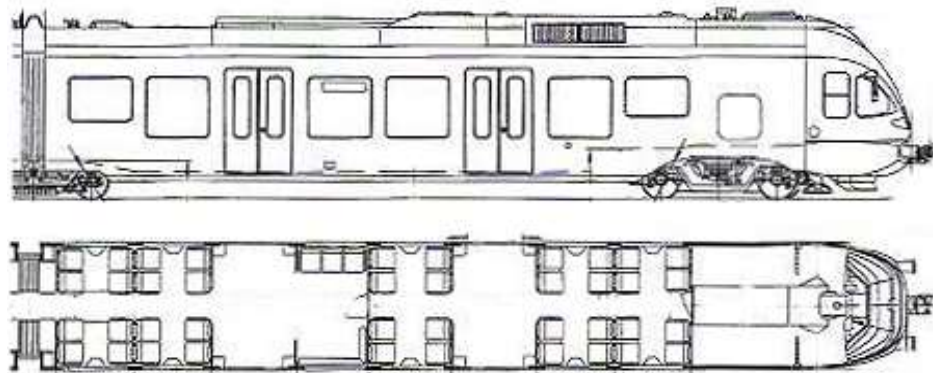
- Detail Design of 25 KV AC Overhead Traction system for 155 RKM between Daitari – Tomka, India
- Detail Design of TSS, SSP and Traction for 25 KV AC system between Pune – Guntakal (600 kms), India
- Detail Design of TSS, SSP and Traction for 25 KV AC system between Tanjung Manis – Samalaju (300 Kms), Malaysia
- Design of Powers system, SCADA and 25KV AC overhead traction system for 40 kms of Chennai Metro, India.
- Detail Design of Powers system, SCADA and 25KV AC overhead traction system for 100 kms of Delhi Metro, Phase 3, India
- Preliminary Design of power system for Monorail system in Lagos, Nigeria
- Preliminary Design of Power system, SCADA and 1500 V DC third rail system for 60 kms of Ahmedabad Metro, India
- Design of traction and power system for Delhi – Alwar RRTS



Rolling Stock & Depot

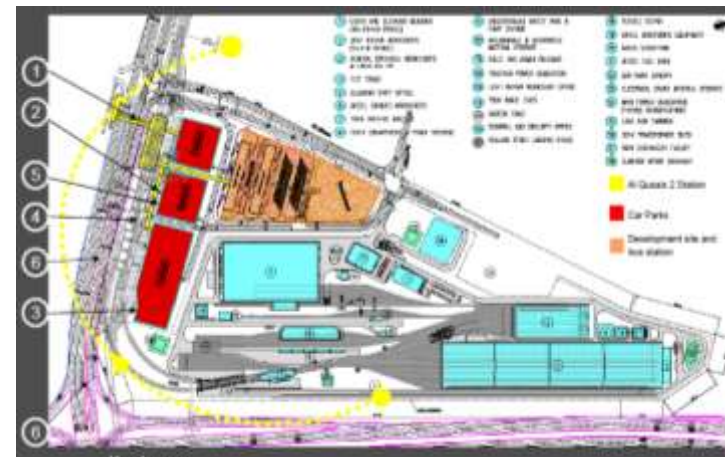
ROLLING STOCK

- Car configurations
- Car dimensions
- Performance requirement
- Car layout & Seating
- Wagon Type and specifications
- Preliminary design of wagons
- Locomotive specifications



DEPOT

- Preliminary layout of depot
- Stabling & maintenance arrangements
- Specifications of depot equipment
- Detailed design of depot buildings and track layouts
- For optimization of turnaround time



Key Experience – Rolling stock & depot

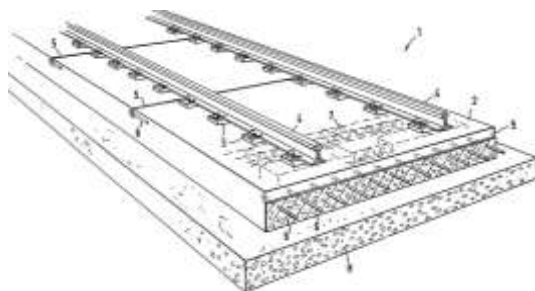
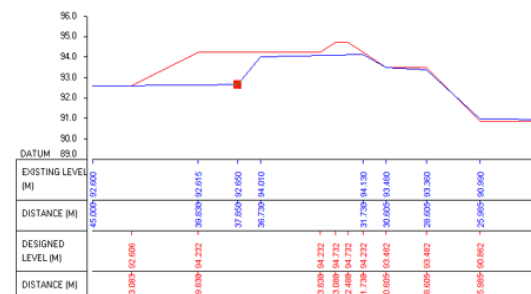
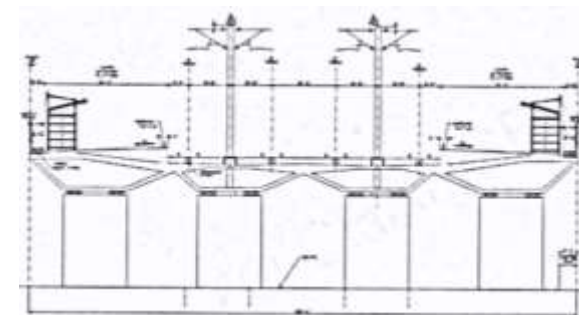
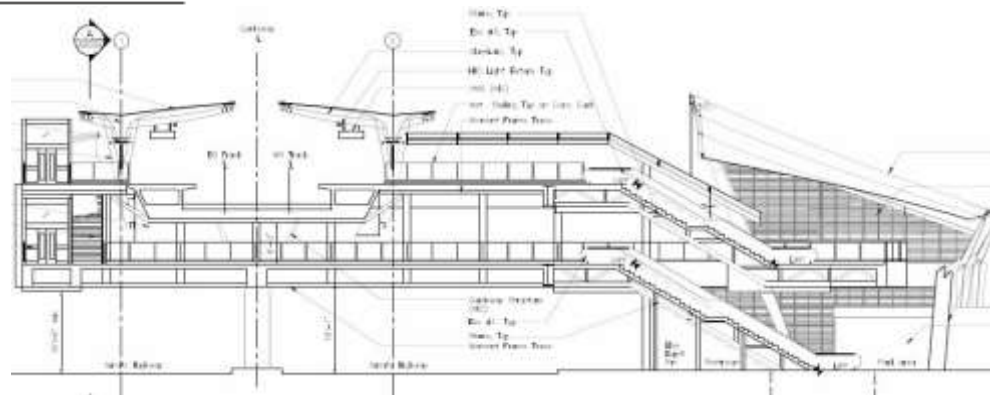
- Self Propelled Utility Vehicle design for Konkan Railway, India
- Preliminary Design of locomotives, wagons and depot for Tanjung Manis – Samalaju line. Malaysia
- Detail Design of Depot for Ahmedabad Metro, India..
- Design of depot layout and equipment specifications for Chennai Metro. India
- Specifications, Preliminary Design of rolling stock and depot layout for NCR RRTS, India
- Specifications, Preliminary Design of rolling stock and depot layout for Kerala RRTS, India
- Depot layout and specifications of locomotives for Dhaka – Chittagong line, Bangladesh.
- Master Plan and detail design for Diesel locomotive manufacturing and maintenance facility of IR



Bill of quantities

Preparation of Bill of Quantities for

- Earthworks,
- Bridges,
- Track work,
- Signalling & Telecom system,
- Power and Traction System,
- Depot equipment and buildings,
- M&E works,
- Buildings and structures



Key Clients

International



Domestic



THANK YOU

BALAJI RAILROAD SYSTEMS PRIVATE LIMITED

“BARSYL Towers”, Plot No.3, Staff Road, Sitaram Nagar, Secunderabad – 500009. INDIA
Telefax: +91 40 2784 7804 – 09 | Email: bd@barsyl.in | Web: www.barsyl.in