Leading Edge Railway Signalling Technology
ERB Technologies is a dynamic company employing a team of motivated and dedicated people, each of whom is a specialist in their respective fields. Our focus at ERB Technologies is on you, our current and potential customers, our commitment being to deliver superior products and services to the railway industry.

ERB Technologies initially acquired the product license for the local manufacture of T121 Track Circuit Equipment from Bombardier Transportation on 17 July 2001. Both a product engineering and project engineering department was established in 2003, which today provide products and services, including maintenance solutions and complete turnkey signalling solutions to the rail industry.

At ERB, the foundation of all we do is the provision of excellence in the products and services supplied to South Africa's railway industry. To achieve this, we strive at all times to be effective, efficient and competitive, delivering consistent excellent quality. We benefit the local railway market by providing it with technology that equals the best the world has to offer.

ERB Technologies is a supplier and installer of technologically advanced railway signalling, trackside and communication products and systems to both South Africa and Sub-Saharan Africa.
What Does ERB Technologies Do?

Effective control of trains is essential for the efficient scheduling and safety of rail services. Where railway lines interface with the public at level crossings, predictive control systems do much to ensure safety both for the rail operator and the public. Our principal businesses include the design, project management, manufacture and supply, repair, refurbishment, installation, testing and commissioning as well as the maintenance of comprehensive railway signalling systems.

As a leader in the field of railway signalling, ERB Technologies is available for in-depth consultation and pre-project feasibility studies.

In-house Product Range

To serve the Sub-Saharan railway industry, ERB has developed its own range of products which are locally manufactured. These solutions have been developed to operate faultlessly in Africa’s sometimes harsh environment.

- **evoLIGHT**: LED Signal Light Unit – Patented SIL4
- **evoYARD**: Yard Automation System
- **evoCROSS**: Level Crossing Safety System – SIL4
- **evoTRACK**: Track Circuit System - AC Immune
- **evoSWITCH1000**: Trailable Points Machine for Marshall Yard Operations
- **evoSWITCH2000**: Points Machine for Mainline Operations

Our customers can use our solutions with confidence, knowing that each one has the correct and appropriate product approvals.
Our Competencies and Experience

- Railway Signalling
- Product Engineering – Research and Development, Manufacture of Equipment, Refurbishment and Repair, Product Support
- Project Engineering – Planning and Design, Testing and Commissioning
- Project Management
- Maintenance
- Training

<table>
<thead>
<tr>
<th>Customer</th>
<th>Project Description</th>
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<tbody>
<tr>
<td>Bombardier Transportation</td>
<td>Install &amp; Manufacture of Signalling Wayside Equipment for the Gautrain Project</td>
</tr>
<tr>
<td>PRASA</td>
<td>Change and Install Signalling at the Moses Mabhida Station</td>
</tr>
<tr>
<td>PRASA</td>
<td>Vandal Proofing of Signalling Equipment</td>
</tr>
<tr>
<td>Transnet Freight Rail</td>
<td>Ermelo Yard Automation</td>
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<tr>
<td>Transnet Freight Rail</td>
<td>Beaconsfield Yard Automation</td>
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<tr>
<td>Transnet Engineering</td>
<td>Level Crossing System</td>
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<tr>
<td>Bombardier Africa Alliance</td>
<td>Durban Re-Signalling and CTC Project</td>
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<td>Actom Signalling</td>
<td>Yard Maintenance for Ermelo, Kimberley, Bayhead, Salkor and Erts/Hotazel</td>
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<tr>
<td>Bombardier Transportation</td>
<td>Electronic Interlocking Pilot Installation</td>
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<tr>
<td>Siemens</td>
<td>Subcontracting services related to the Detailed Design, Supply and Installation of Signalling from Kimberley to De Aar for the 16MPTA Manganese Rail Phase 1 Project</td>
</tr>
<tr>
<td>DRA Mineral Projects</td>
<td>Signalling of Nchwaning Balloon - Hotazel Link line and Level Crossing</td>
</tr>
<tr>
<td>Transnet Freight Rail</td>
<td>Design, Supply, Installation, Testing and Commissioning of Track Vacancy Detection System at various Stations within the TFR Rail Network</td>
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Certification and Accreditation

- ISO 9001-2008 Certification from Sancert, No: 200705001
- OHSAS 18001:2007 Certification from Sancert, No: 201311002
- Broad-Based Black Economic Empowerment Level 3 Contributor
Local Rail Industry Approvals

For Transnet Freight Rail (TFR), ERB has served as a main contractor in the planning, design, supply, installation, testing and commissioning of railway signalling equipment and systems.

For PRASA, ERB has served as a main contractor in the planning, design, supply, installation, testing and commissioning of railway signalling equipment and systems.

Technical accreditation from PRASA for the Signal Light Unit LLU-A12 LED Cluster.

<table>
<thead>
<tr>
<th>Product</th>
<th>Approval</th>
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<tbody>
<tr>
<td>evoLIGHT</td>
<td>prasa</td>
</tr>
<tr>
<td>evoYARD</td>
<td>TFR</td>
</tr>
<tr>
<td>evoCROSS</td>
<td>TFR</td>
</tr>
<tr>
<td>evoTRACK</td>
<td>prasa</td>
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ERB – Covering the Country

Wherever you are in South Africa, you are never more than a call away from ERB Technologies’ professional staff and services. Headquartered in Midrand with satellite offices located in Durban, Ermelo, Kimberley, Hotazel, Erts and Saldanha.
Leading Edge Railway Signalling Technology

Products and Services

Train Detection
Knowing where trains are physically located is essential for accurate train scheduling, control and safety; while train detection is vital for the safe operation of level crossings. In the field of train detection, ERB offers both track circuits and axle counters.

Point Machines
Point Machines are the basic equipment used in train routing and control. ERB supplies these in both AC and DC models. Additionally, ERB supplies derailleurs.

Signals
Signals provide train drivers with clear, easy to see warnings and prohibitions. Here, ERB supplies its LED Signal evoLIGHT Unit as well as gantry signals and signal assemblies.

Communication Systems
Reliable communication systems serve to ensure that everyone from the train driver to train control officers and maintenance teams know what the state of occupation of a particular stretch of track is. ERB is able to supply technology for fail-safe data transmission (FSDT) and communication-based authorisation systems.

Remote Control Systems
To ensure safe rail movement while maintaining maximum traffic volumes, ERB supplies and installs CS90 Remote Control Systems.

Interlocking
In railway signalling, an interlocking is a system of signalling equipment that prevents trains colliding at junctions and crossings, and keeps trains using the same track a safe distance from one another. In terms of interlocking, ERB provides both relay-based and electronic systems.

Yard Automation System
With vast tonnages of freight moving on rail, yard control systems ensure that freight reaches its various destinations with minimum delay.

To serve the needs of marshaling yards, ERB provides a range of equipment such as:

- Points Machines
- Points Machine Controllers
- Detector Boxes
- Vacancy Detection Systems
- Local Control Panels
- Communication Systems
- Yard Automation Points Indicators (YAPI)
- Workstations
- Solar Power Installations
Level Crossings
In South Africa, level crossing systems are a major area of risk. In collaboration with leading foreign companies, ERB is able to offer advanced electronic level crossing systems such as the versatile WaveTrain control equipment.

Power Systems
Power equipment that serves rail has to be robust and reliable. Meeting these requirements; ERB designs, supplies and installs UPS systems.

Remote Monitoring and Diagnostics
Bearings, brakes and wheels of rolling-stock units are vital elements for the safety of Railroad operations. The ability to detect the heating of these elements can prevent the breakage of the axle boxes, de-railment, fire and other damages to the rolling stock or tracks.

Early warning systems are critical for safe railway operations. Installing systems such as hot box and hot wheel detectors can prevent these occurrences.

ERB is an approved Progress Rail distributor.

Asset Protection
With the greatly increased demand for scrap metal, vandalism is sharply on the increase. ERB can protect customers' assets by vandal proofing points covers, tropical apparatus cases and trackside cabinets.
Facilities, Capacity and Capability
ERB Technologies have a well-equipped facility in Midrand measuring 4,800m², logistically positioned and easily accessible to customers. ERB Technologies has a reliable, skilled and highly experienced team, supported by appropriate off-site plant and machinery equipment, on-site manufacturing, wiring and testing equipment for all railway signalling activities.

Various processes exist within ERB Technologies to comply with the manufacturing process such as ISO 9001 and OHSAS 18001 certification.

Employment Equity
ERB recognises the challenges faced by the fledgling democracy in which it operates. It is proud of its achievements in the field of employment equity.

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Black</td>
<td>53%</td>
</tr>
<tr>
<td>White</td>
<td>37%</td>
</tr>
<tr>
<td>Coloured</td>
<td>9%</td>
</tr>
<tr>
<td>Indian</td>
<td>1%</td>
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<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>White Male</td>
<td>30.18%</td>
</tr>
<tr>
<td>Black Male</td>
<td>46.54%</td>
</tr>
<tr>
<td>Female</td>
<td>17.61%</td>
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Broad-Based Black Economic Empowerment

<table>
<thead>
<tr>
<th>Entity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>ERB Black Employees Trust</td>
<td>18%</td>
</tr>
<tr>
<td>R Manganyi</td>
<td>9%</td>
</tr>
<tr>
<td>Voco Trade (Pty) Ltd</td>
<td>73%</td>
</tr>
<tr>
<td>Empowerment Shareholding</td>
<td>27%</td>
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Skills Development
Training
ERB Technologies is committed to the education of
- Supervisors, Technicians, Artisans and Wireman in the disciplines of: Signalling, Electrical Work and Electronic Engineering
- IPC Standards
- Health and Safety
- Human Resources/Industrial Relations
- Finance and Administration
- Quality Assurance
- CAD Design

Female Learnership Programme
ERB has an in-service training policy and strives to train and develop previously disadvantaged individuals. In addition to this training, ERB has entered into a learnership and mentorship programme for women. ERB staff have trained and developed fifteen young black women in-service in various disciplines within the railway signalling business. Twelve of these young women have been permanently employed and it is the intention of ERB Technologies to continue training black female learners in this way. Training for black women at FET colleges and universities forms part of the company’s learnership programme.

Social Development
To contribute to South Africa’s future skills pool, ERB supports the education of black learners from school to tertiary level.

Supplier Development
ERB Technologies have continuously been committed to obtaining unemployed persons from the local community to perform work such as: trenching, cable laying, trench back-fill and installation of signalling wayside equipment under supervision. Due to the complexity of the signalling installations, it is necessary for ERB to employ skilled and semi-skilled labour permanently to provide uninterrupted in-service training.

ERB Technologies procure trenching and cable laying materials from local suppliers within the local communities where the site is established.

ERB endeavor to maximise expenditure with suppliers who have the most optimal combination of technological capability, competitive pricing and high scorecard BBBEE accreditation thus empowering less advantaged suppliers.

Enterprise Development
ERB Technologies have engaged the services of Lumwe Technologies (Pty) Ltd, which is a 100% black-owned company. The company is provided with office space and use of all infrastructure to conduct business. Financial, administrative support and training are provided.

ERB’s top management spend time mentoring and equipping the management team of Lumwe Technologies (Pty) Ltd with the aim of creating a local competitive supplier.
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