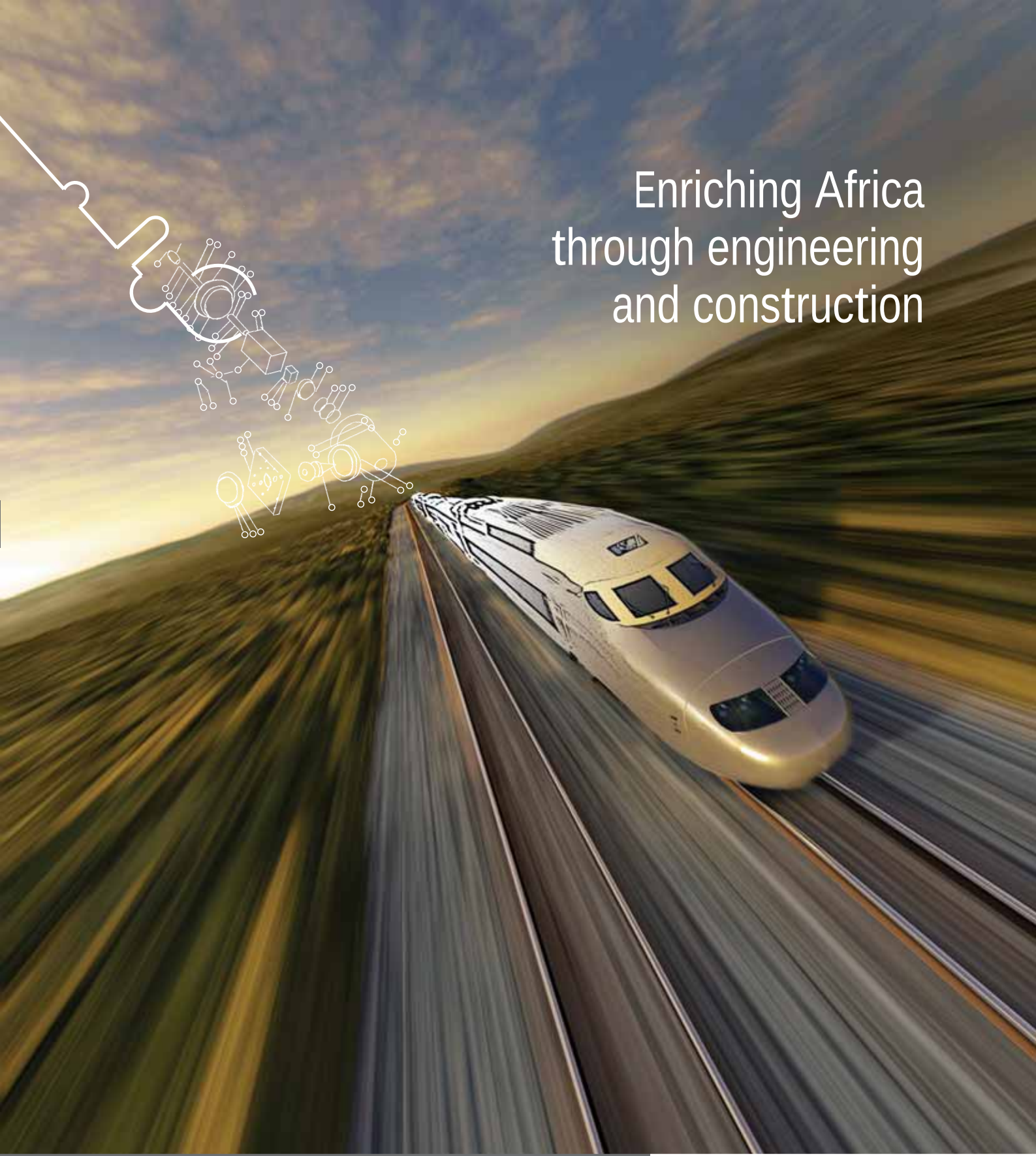




Enriching Africa
through engineering
and construction

RAIL PARADIGM

African challenges

Throughout the world, the largely untapped developing economies have emerged as the key regions of economic growth-potential. Africa thrives with an abundance of opportunity. Through much-needed infrastructure development, the construction and engineering sectors have a major role to play in the socioeconomic upliftment of the continent.

Research in many African countries, however, shows that strategies for infrastructure development projects – which are designed and implemented in the context of top-down policy and planning practices – often result in costly, inappropriate or unsustainable infrastructure systems*.

There is also growing pressure on public and private sector infrastructure owners and developers to move their emphasis from a mainly financial focus in the past to a wider and more inclusive approach to doing business, which embraces the social, economic and environmental aspects of the organisation's activities. In this instance, to transfer labour, technical and managerial skills; to source building materials locally; to create local employment; to invest in community upliftment; and to leave a legacy of sustainability in the process.

Black Economic Empowerment or indigenisation is playing an increasingly important role in the selection of contractors in Africa. Those with the right management and ownership credentials can benefit from preferred partner status with clients in both public and private sectors. But it is rare to find a contractor who can strike a perfect balance between credentials and ability.

At the same time, African construction and engineering industries face many complex challenges which can slow infrastructure development and thereby seriously hamper growth.

- Lack of professionally engineered solutions
- Shortage of engineering skills
- High rate of degradation
- Fixed capacity in the face of volatile demand
- Inadequate medium- and high-level skills
- Materials availability
- Supply chain inefficiency
- Inflexible labour regulations

Operating in this highly complex, specialised industry requires extensive grassroots knowledge and local capability.

Substantial experience in large-scale projects is also non-negotiable.

The ability to see a project through – from strategy to structure – is absolutely critical for sustainable infrastructure development. In such environments, expert acumen, experience and turnkey project management are required.

Landscapes
of the future
are built on
a foundation
of people and
environment

* G Zawdie & D A Langford, University of Strathclyde

African solutions

Rail Paradigm is experienced in unlocking the vast potential in Africa with hands-on intervention. We fulfil the role of designers and implementers of strategically conceived and professionally executed engineering solutions. We turn business concepts into realities. We do so through the consistent and continuous application of sound engineering principles that are supported by accredited engineering councils.

Individuals in **Rail Paradigm** have built over decades of experience in high-level infrastructure development in Africa.

As a black-owned and managed, specialist engineering firm **Rail Paradigm** not only has an intimate understanding of Africa's unique sociopolitical needs within its construction and engineering environments, but has the insight, skills and experience to design,

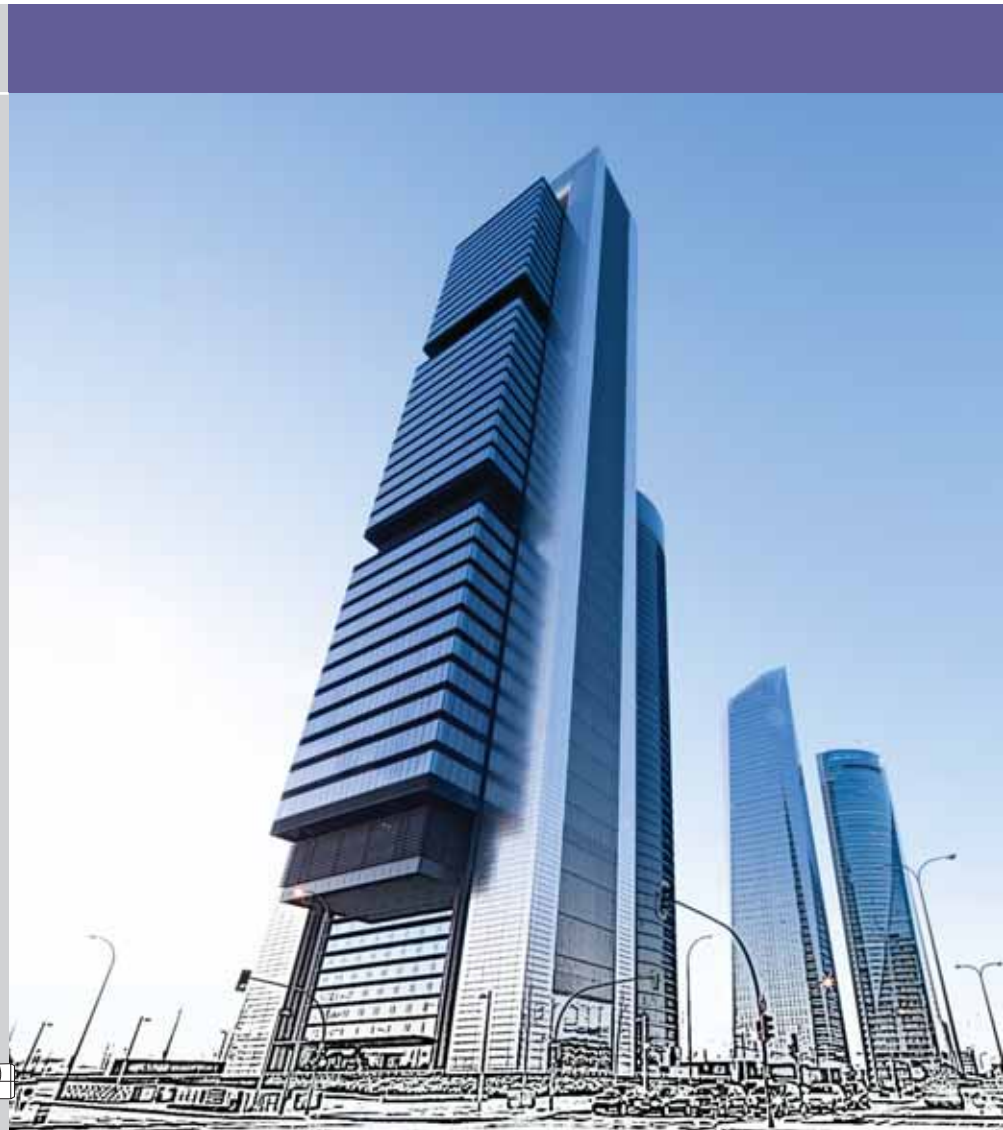
implement and manage sustainable infrastructure projects.

We are experts in maximising value for investment while enriching the communities in which we operate. Through our strategic partnerships with local industry leaders we are empowered to execute your vision, with zero-tolerance for non-delivery.

Services

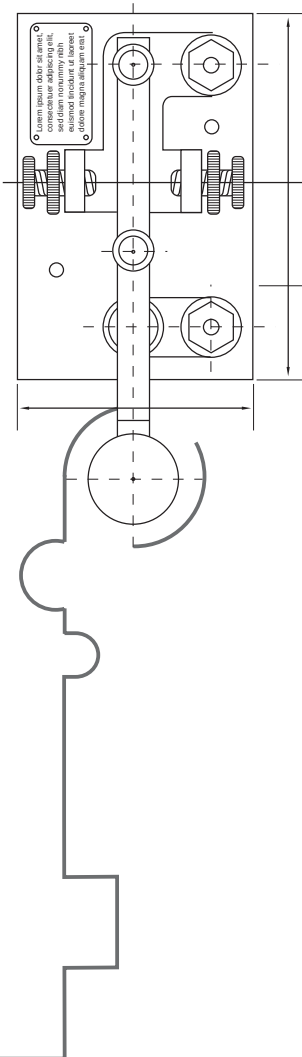
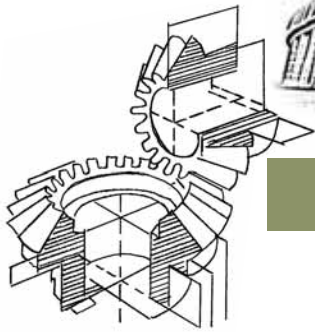
Working closely with you, our specialist teams tap into a pool of world-class skills and rich experience to assist in the planning, conceptual design, integrity verification, construction and closing phases of a project. We can engage at any stage of the development cycle – from preparing and advising on business cases to providing ongoing support once a project reaches completion.

- Business Development
- Engineering & Construction
- Project Management



<i>Construction</i>		
Signalling	Electrical	Civil
• Design (interlocking, remote control, control panels and power distribution) • Installation • Commissioning • Integrity testing • System integration • Data integrity • Peripheral equipment (ATR, data loggers etc.) • ICS • Benchmarking	• High-voltage transmission lines and stringing • Community and housing design and implementation • Insulated coating • Industrial design and installation • Stand-by generators and UPS design • OHTE • Benchmarking • Condition assessments • Traction power supply • Safe working procedures	• Roads and bridges • Rail • Buildings • ICT (optic fibre) • Electrical substations • Transmission lines and stringing • Permanent way (rail) • Drainage • Embankment protection and rehabilitation

ICT Development	Supporting Design	
• Operations analysis and re-engineering • Control system technologies • ICT design and project management • Infrastructure maintenance management • Component design	• Transmission power lines • ICT • Rail • Roads • Bridges • Culverts • Modelling natural water courses	Sustainable engineering solutions for Africans are safest in expert African hands



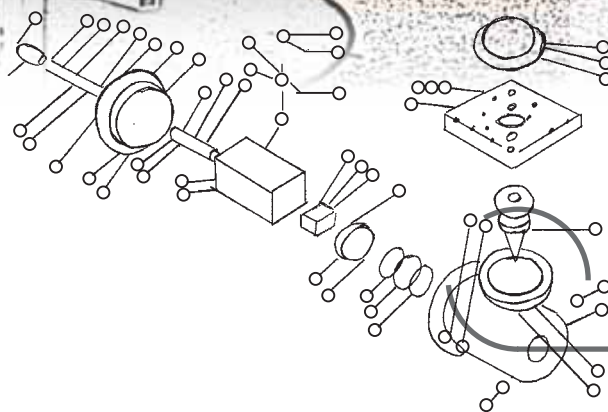
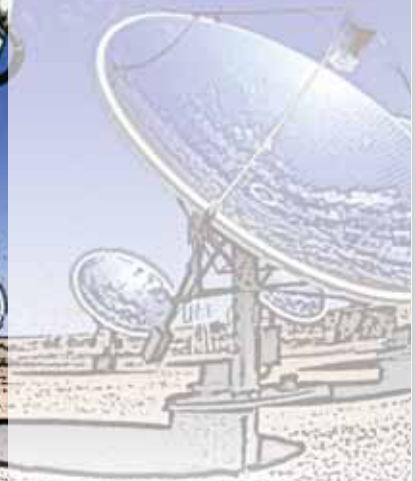
Engineering

Specialist Rail Engineering

- | | |
|--|--|
| <ul style="list-style-type: none"> • Layout design • Access control • Ticketing • Passenger flow modelling • Maintenance management systems • Perway material procurement and management | <ul style="list-style-type: none"> • Geometric design • Formation design • Rail rehabilitation • Service roads management • Condition assessments • Benchmarking |
|--|--|



Think it
Imagine it
Dream it
Believe it
Do it



Structural Engineering	Project Management	Business Development
• Commercial and retail • Public utilities • Station terminals • Office and residential • Bridge management systems • Benchmarking	• Programme development • Portfolio development • PMO establishment • Lifecycle management • Multidisciplinary project management processes • Programme integration management • Environmental management • Claim management • Enterprise Programme Portfolio and Project Management (P3M3) certification and rollout • Scope, time, cost, quality, HR, communications, risk and issue management, procurement, safety and contract management	• Due diligences • Tender evaluations • Business cases • Business plans • Capital plans • Operational plans • Operational models • Service Level Agreements • Operational Level Agreements • Risk management • Quality Assurance • PMO establishment • Management reporting • Management presentations • New integrated transport plans
Rolling Stock • Compilation of specifications • Procurement • Technical evaluations • Dynamic testing • Access control and security systems • ICS • Benchmarking		

Partner with African leaders

Rail Paradigm is a specialist engineering firm that blends local experience with global expertise. Our strategic alliances on the continent and around the world enable us to design, execute and maintain wide-ranging projects in line with world-class standards. We do so to ensure the greater socioeconomic development of the communities we touch.

Creating bold and innovative solutions
– from conception
to execution
and beyond...

For more information on how we can help you engineer the future, visit our website at www.rail-paradigm.com

