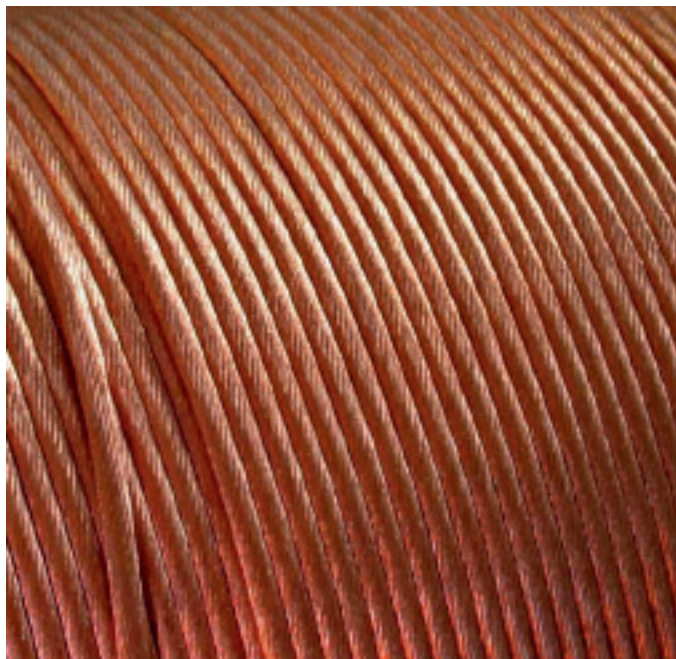




Mass transit for
metropolitan millions
with the opening
of a new rail network.
By David Bannister.

South Africa goes on line



Copper rod from Palabora (above) is supplied to a local partner company where it is drawn out into conducting wires of high strength and purity (left) for use in the overhead catenary cabling throughout the rail network (above left).

Rio Tinto's end products are to be found just about everywhere, in applications both huge and humble, from the coal which fires power stations and the iron which raises skyscrapers, to the titanium dioxide in sunscreen. In a particularly noteworthy end use, copper from Rio Tinto's Palabora Mining Company now forms an integral part of a new prestige engineering project in South Africa – the Gautrain.

For soccer's 2010 World Cup, South Africa built five new football stadiums, upgraded its international airports – and this new rail network provided rapid transport for thousands of fans.

The network takes its name from the province of Gauteng on the highveld plateau of South Africa. The "Gau" in Gauteng is the word for gold in the Sesotho language, and indeed the province is famous for the huge gold reserves of the Witwatersrand, which helped fuel the country's rise to prominence as the economic giant

of Africa. Although Gauteng is South Africa's smallest province, it is also its most populous region, home to roughly 11 million people and containing the cities of Pretoria and Johannesburg.

The Gautrain is an important new development for the country, which has struggled to maintain effective transport links in the face of a rapidly

growing urban population. The rail network, the final parts of which are still under construction, provides an 80km high speed link between the main urban centres of Johannesburg, Pretoria, and Ekurhuleni, linking townships and residential areas with the inner city. In the words of Jack van der Merwe, CEO of the Gautrain Management Agency, the new rail system "brings jobs to people, and people to jobs".

Construction for the Gautrain was undertaken by the Bombela Concession Company, a partnership of South African and international firms, with a large stake in local Black Economic



Transport hub at O. R. Tambo International, where Gautrain links up with air terminal and motorways.

Empowerment (BEE) business. Three billion Rand (approximately US\$440 million) was allocated for the purchase of locally produced materials, including copper from the Palabora Mining Company (PMC).

PMC is a block caving operation, located in Limpopo province to the north of Gauteng. The mine employs approximately 2,200 staff, primarily from surrounding towns and villages, and has recently concluded a Broad Based Black Economic Empowerment agreement with local communities and employees, intended to empower those South Africans who were disadvantaged under apartheid.

PMC produces copper, magnetite, and vermiculite, and the bulk of its products are sold within South Africa, though a significant percentage are exported to developing countries like China. Palabora copper finds a range of uses in the South African cable and wire industry: its magnetite is used in the density classification of coal products and the smelting of iron, and vermiculite from the

mine finds its way into fertilisers across the world.

PMC's contribution to the Gautrain came in the form of 20mm copper rod, at 99.99 per cent purity, which was used to make the overhead catenary conductor for the rail network. This is the system by which electrical power is safely supplied to each train engine, with the conducting wires kept out of reach of passengers, or animals that stray onto the tracks. Copper rod from Palabora was supplied to its local partner company, M-TEC, where it was drawn out into grooved conducting wires of high strength and purity.

The conductor runs the full length of the Gautrain network – 300km of PMC copper went into the construction of the conductors. The mine's copper also went into much of the finer electrical wiring throughout the train system, forming an essential part of what is now South Africa's most modern public transport system.

There is of course good reason to be proud when Rio Tinto materials are used to produce high

quality engineering in any sphere of industry. But the Gautrain is especially significant in the South African context. It represents a developmental leap forward for the country's most dynamic region, and is the source of real short and long term benefits to the peoples of Gauteng. In mid 2010 it was estimated that the project had created or sustained approximately 97,000 jobs, most of them locally, and more than US\$500 million has been allocated to black owned South African companies.

More important, however, are the socio-economic benefits which the Gautrain and its infrastructure brings to the poorer peoples of the region. By providing an efficient transport link between inner cities and outlying townships, the new metro rail system gives those who live on Gauteng's periphery access to the economic benefits of its urban centres. The train improves the region's transport in a broader sense, with the expansion of feeder bus links and improved access roads, and reduces carbon emissions by offering an efficient mass alternative to car transport. In offering an alternative to road travel, it also helps in bringing down the country's high rate of traffic accidents.

At the height of the football World Cup, it was estimated that 80,000 passengers were travelling on the Gautrain each week, many of them from amongst the half million tourists who visited the country for the tournament. Gautrain usage has continued to expand since the tourists went home – the millionth passenger bought a ticket in August 2010. And this is only the first phase of the project – the extensions of the lines and construction of more stations, to be completed in 2011, will open high speed commuter rail links to many more South Africans.

Says Herbert Hanke, general manager for sales and marketing at PMC, about the company's involvement in South Africa: "We take great pride in being a key supplier of products which are already used in a vast array of socially beneficial local applications, so of course we're extremely pleased to have been able to supply the copper rod which was used for the Gautrain project. We're trying to build relationships with communities in South Africa which are characterised by mutual respect, highly active partnerships, and by long term commitment."

Find out more at www.palabora.co.za

David Bannister is a UK based writer, covering industry and finance in the developing world.

97,000

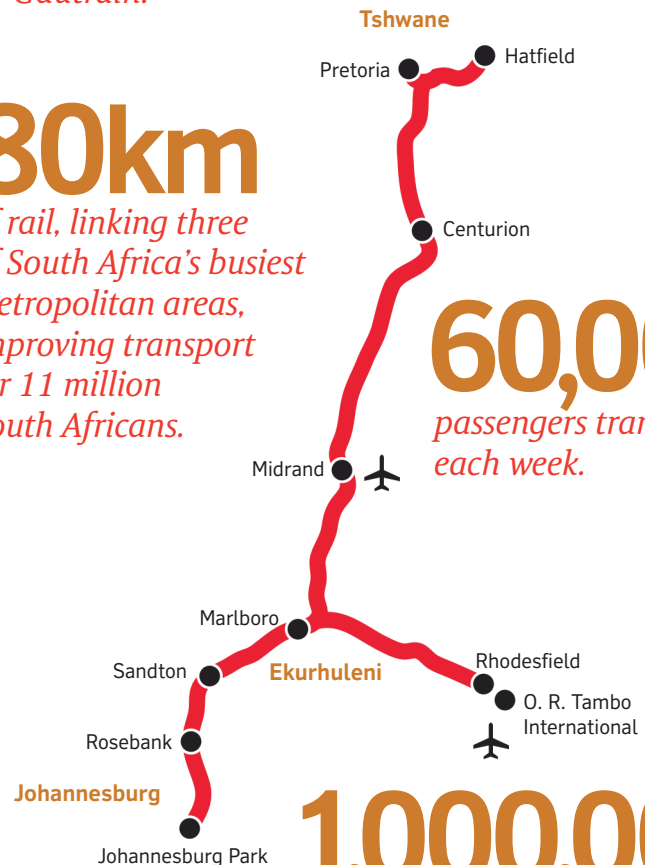
jobs created or sustained by Gautrain.

80km

of rail, linking three of South Africa's busiest metropolitan areas, improving transport for 11 million South Africans.

60,000

passengers transported each week.



1,000,000

passengers used the system between June and August 2010.

300km

of Rio Tinto copper used to make the pantograph conductor for the train.