



A NEW, WORLD-CLASS TRAIN MANUFACTURING FACILITY IN SOUTH AFRICA



Gibela will replace South Africa's outdated rolling stock and deliver 600 passenger trains into the South African rail network over the next 10 years.

This is not simply a train replacement programme. It is Gibela's strategic objective to create a flagship industrial environment that is a catalyst for the South African railway's revitalisation and one that sets a world-class benchmark. In addition to delivering modern, safe coaches, Gibela will act as a catalyst for transformation by addressing socio-economic challenges – creating jobs, developing skills and uplifting the living standards of all those directly and indirectly affected by the project.

This includes a R1 billion manufacturing plant to be built in Dunnottar in Ekurhuleni. It is here that the majority of the new rolling stock for Phase 1, and later Phase 2, of the replacement project will be built – initially 580 trains comprising 3,480 coaches. The plant will be a critical hub, providing on-site maintenance services, a training facility for railway-specific artisan skills and an engineering centre of excellence.

Gibela's factory will be at the cutting edge of rail equipment production.

Construction of Gibela's R1 billion, purpose-built factory at Dunnottar in the municipality of Ekurhuleni, Gauteng, will start during the third quarter of 2015.

Building a factory to deliver on Gibela's specific task to assemble, test, commission and deliver 580 state-of-the art X'Trapolis Mega commuter trains has stretched the skills of its design architects. Not only is the site to be prepared and levelled to accommodate rail tracks and the factory buildings, it also needs to respect and accommodate both a natural and man-made wetland.

But, with a 30 hectare, untouched site for the rolling stock manufacturing facility alone, the 60 000 square metre factory could be value-engineered from the outset with a R1 billion construction budget. The design process has been carefully considered to enable the plant to operate at optimal efficiency right from the start. The plant will be equipped with several kilometres of rail network, including a 1.2 kilometre dynamic test track for the testing of completed trains.

The design has been refined to the fullest extent possible, delivering buildings that do not impinge negatively on the aesthetics of the area. Equally as important, the factory will be in a transport hub that facilitates access by employees, outside contractors and suppliers.

Adjacent to the factory, a plan is in place to create a supplier park which will ease the logistical challenges of the many suppliers needed to support train building capacity. The demands on the supply chain will be enormous as it is expected that the factory will, at peak, produce two coaches a day.

Key to the factory's success will be its compliance with Gibela's rigorous environmental, health and safety standards, thorough value-engineering requirements, the capacity to host a specific linear and uninterrupted production sequence and respect for and protection of the natural environment.

Location of the new facility



S 26 021' 13.51" / E 28 027' 54.06"





INVESTING IN ENERGY-SAVING TECHNOLOGY

The factory will make use of technology to achieve energy savings in respect of heating, cooling and operating. The train production process must be continuous – there can be no question of power outage interruptions halting work. This potential risk will be overcome by incorporating stand-by power generators into the equipment design. AECOM, Gibela’s appointed design, procurement and construction management contractor, is responsible for the 88kV bulk electrical supply to the factory. They have included overhead line and underground cable options, as well as three 30MVA substations and some 18 100kVA mini substations.



SAFETY BY DESIGN

Safety is a priority and has been incorporated into the factory’s design from the outset. The backbone is the total separation of pedestrian, vehicular and industrial traffic along the site’s central axis. Platforms and pits that are necessary to give access to trains under construction have been designed with safety in mind.



MEETING THE HIGHEST ENVIRONMENTAL STANDARDS

From an environmental standpoint, the factory will be positioned so as not to directly border or affect a natural wetland that overlaps part of the site. In fact, the factory’s design and lay-out will improve the wetland by using world-class stormwater management design. In consideration of the environment, the construction process entails the creation of a platform that is two metres above the current level – where the factory rail lines and buildings will be located. This has necessitated the removal of topsoil and other sensitive plant species which will be relocated and returned once construction is complete.

The factory will be built to comply with South Africa’s demanding construction standards. Natural drainage will carry storm water off the site and, because the site will be replanted with indigenous flora, artificial irrigation will not be needed.

The factory’s design makes full use of experiences at modern plants owned by Gibela’s parent, Alstom Transport, in France and India. It is designed to meet the most modern environmental standards, making the fullest use of natural ventilation and light.

DELIVERING SKILLS, INVESTING IN SOUTH AFRICA

Setting the Gibela facility apart from other industrial plants is the training facility on site. It is part of the company’s commitment to deliver skills to South Africans and will be an accredited tertiary training facility for artisans and technical workers. Training will not be simply to provide Gibela with skilled operators, but will offer training in portable skills that will allow its graduates to find jobs elsewhere in industrial South Africa. The training facility will be the central hub where the skills of some 19 000 individuals will, over the next 10 years, be honed.



FOR MORE INFORMATION

Pamella Radebe
Communications Director: Gibela
+27 11 518 8235
pamella.radebe@gibela-rail.com

www.gibela-rail.com