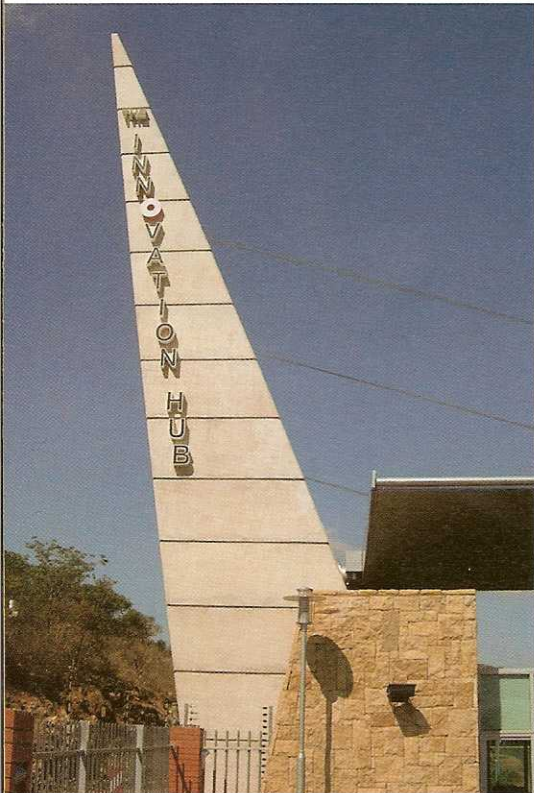


First impressions do really count



Jessica Farley

Visible from one of the country's busiest highways, the N1, the impressive gatehouse to The Innovation Hub is an engineering feat with a 21 m tapering concrete mast structure. By Jessica Farley.

The Innovation Hub is a precinct developed and funded by the Gauteng Provincial Government's Blue IQ initiative. Standing at the forefront of scientific and technological innovation, The Innovation Hub is definitely the first of its kind in South Africa. If the Innovation Hub is supposed to emanate a cutting-edge technology vibe, then the developers got it spot on with the first impression, the gateway. The six-lane gatehouse to The Innovation Hub, which can be seen from the N1 highway, is



Pure Consulting (Pty) Ltd

Far left: The beautiful grounded cantilever was inspired by Obelix's ever present menhir.

Left: The floating gateway to The Innovation Hub ensures an atypical first impression.

Professional team:

Client: The Innovation Hub Management Company

Architects: Moross Architects in association with Naren Mistry Architects

Structural engineers: Joint venture between PD Naidoo and Associates and Pure Consulting

Quantity surveyor: BTKM

Main contractor: Joint venture between Concor and Trencon

Steelwork contractor: Omnistruct and Freysinnet-Posten

interesting, original and just a little bit cheeky.

The gatehouse comprises a 21 m high tapering concrete mast structure to which a 30 m X 10 m wing-shaped canopy is attached. The angled mast, which is constructed entirely out of concrete and steel reinforcement, was initially inspired by the ever present menhir of the great Obelix of Asterix and Obelix fame. Using the simple concept of Lego blocks, all of the layers of the menhiresque structure were pre-cast through multiple use of a single adjustable shutter mould, and then

erected together in a short space of time. Steel tendons were thread through the blocks down into the pre-dug chamber beneath the mast, where they were stressed very tightly and clamped. The mast is also supported by a ground anchor and 8 m worth of piling.

After the grounded cantilever was fully constructed, the pre-manufactured steel wing was hung off the side using galvanized steel wire attached at three intervals along the wing and brought back in a taut line to the concrete structure and secured. The canopy, which was fabricated and erected by Omnistruct, is sheeted on the top and the bottom. Several very thin cables are attached to the underside of the metal wing, to ensure that if the right wind comes along that the wing doesn't do what it is designed to do and start flapping in an attempt to take-off.

The entire structure of the gatehouse was, all in all, pretty much pre-made and then erected with the use of one crane and a fair amount of scaffolding. An effectively simple concept, backed up by harried engineering calculations and lots of sleepless nights led to the successful creation and completion of a floating gatehouse, which is perfectly balanced out and secured to create a stable structure.

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