

A bespoke solution for accessing a hydro-electric plant installation using modular bridging technology

Bridging Case Study



Farahantsana Bridge, Mahitsy, Madagascar

Customers: Mahitsy Hydro, Tozzi Group

Solution: Compact 200™ modular bridges adapted to specific dimensions



The Challenge

Originally begun in 2006, the Farahantsana Bridge across the River Ikopa was to become an access route to the Mahitsy Hydro-electric Plant building project, but was abandoned by the previous investor for financial reasons. Part of the original work, the concrete abutments and piers for the river crossing, had already been installed, but the bridging itself hadn't been started before the project was shelved. In 2014 the Tozzi Green Group took over the project and began to scope out various bridging solutions to utilise the work that had already been done. The main challenge facing Tozzi was how to install a modular bridge, designed and erected to specific dimensions, onto an existing concrete structure – one which hadn't been originally designed to fully match with a standard bridge.

The Solution

During this process Tozzi contacted Mabey Bridge in order to find a viable, technical solution. Chosen because of their reputation in the region and expertise in modular bridging solutions, Mabey Bridge with its in-house design engineering team, proposed a bridge scheme that involved three modular sections, each with the ability to locate perfectly onto an abutment. Each section was to be designed to a 'standard' width, but required individual length spans – 27m, 34m and 26m; each section also needed to provide a load capacity that was more than sufficient for carrying construction traffic for the hydro-electric plant installation work.

The Results

The construction of the new Farahantsana Bridge by local contractors meant that work could begin in earnest on building the hydro-electric plant.

The bridge not only provided access to the plant, but also benefited the rural communities of Ambohimasina and Ampanotokana, who can now take advantage of the development prospects and economic opportunities, owing to the improved connectivity. This is a vital project, which is set to supply 200,000 households with power by 2021 and strengthen Madagascar's overall volume of production on the interconnected network of Antananarivo.

The President of the Republic in the presence of the President of the Senate, members of the government as well as representatives of Tozzi Green Group officially inaugurated the bridge in 2017, celebrating future prosperity for both the local communities and Madagascar as a nation.



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