



The management challenges of building a World Cup stadium in the Amazon – the case of the Amazon Arena (Brazil)

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Brazil hosted the FIFA World Cup 2014 and faced a series of challenges to organise the event. The country undertook the difficult task of rehabilitating old stadiums and building new ones with a deadline that could not be postponed in case of delays. New technologies, severe weather and political interference are only some of the factors that posed a high risk for the Amazon Arena project.

The Amazon Arena, a stadium with capacity for 44,000 attendees, was built in Manaus, a city located in the middle of the Amazon Rainforest, accessible only by boat and air, and with severe weather conditions, such as high temperature (24-37 °C), high humidity (76-89%) and intense rainfall (2300 mm/year) that considerably reduce productivities. These factors increase costs and make cost estimating a hard mission to accomplish. Another aggravating factor in the execution was the low qualification of local labour force and a high turnover rate.

Besides the natural difficulties of logistics and time, several scope changes were imposed by FIFA after the contract was adjudicated, causing a strong impact on the project cost and schedule. In order to mitigate these adversities, the general contractor had resorted to well-conceived lean construction techniques, implemented 4D BIM methodology and performed a timely scope change management to meet the original tight schedule.

