



BIM Practical Application - New bugesera international airport (Rwanda)

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Abstract

The increasing complexity of buildings is expressed through different aspects. Requirements such as complex architectural shapes and highly demanding environmental performance require better and more sophisticated engineering solutions.

The challenging deadlines and budget control demand optimized and automated solutions that adapt perfectly to each project and to the evolution between design stages. These and other aspects generate a proliferation of information and make the life cycle of the project progressively more complex and difficult to control. In this scenario it is imperative for the design team to make use of the most advanced tools available and adapt the design processes to exceed current expectations and prepare future market demands.

GEG has already fully embraced the BIM methodology, in order to respond to these challenges on the projects it is involved.

This article intends to present a specific project - the New Bugesera International Airport of Kigali in Rwanda - as an example of implementation of these processes. Through this example such aspects as the strategies, the difficulties, the advantages, and the tools used to overcome the different challenges are presented. The possibility of showing on site construction, as this is a fast track design build project that is already under construction, introduces additional difficulties but also increases the interest to present this case.

Keywords: BIM, Airports, Parametric, Automation, Interoperability.

1. Introduction

The current paper describes some of the processes developed by GEG in the project development of the New Bugesera International Airport.

The New Bugesera International Airport - NBIA is part of Rwanda's governmental program, whose

purpose is to make Kigali a tourist and business destination. The NBIA will have, in this first phase, an initial capacity of 1.7 million passengers per year. [1]

As part of this design-build project, GEG was in charge of the development of the Detailed Design stage and Value Engineering, being responsible for the design of all engineering disciplines, including