

This contribution presents the uses of BIM technology at substations on a Brazilian utility. One use is regarding to ampliations of old facilities. The use of laser scanning of installations built in traditional methodologies, some of them before even the Computer Aided Design, has proven to be a fast way to help the development of projects. The example is the substation of Bongi, 230-69-13,8 kV, built in middles of 70's. Bongi is part of Chesf, the largest utility for power generation and transmission in northeastern of Brazil. Part of its project documentation was lost or had poor level of as built information. The employing of laser scanning made possible to have all measures and reconstruct the project.

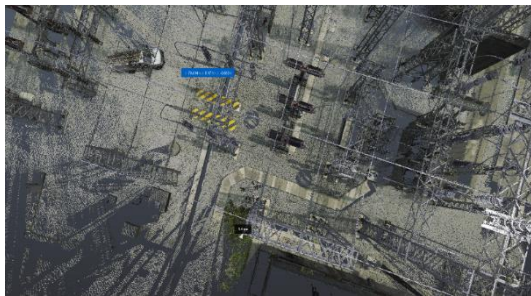


Figure 1: Bongi Laser Scan

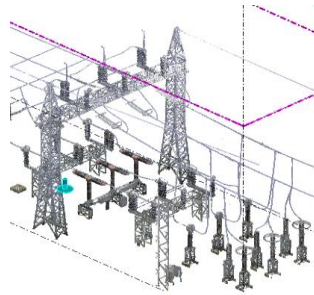


Figure 2 : Bongi's Cloud points

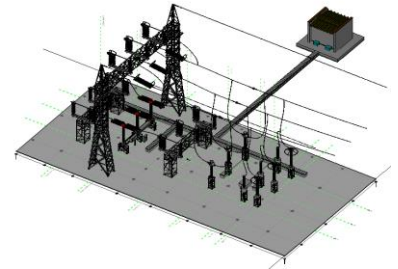


Figure 3 Model obtained from Cloud points

But the major use of BIM modelling is the possibility for have prompt access to information, documental or dimensional. The case illustrated below shows the integration between BIM model and ArcGIS where a BIM modelling (information + geometry) was built on the ArcGIS map of installation. Several information, such equipment name plates and technical specifications, are at disposal by clicking on the equipment. Ampliations possibilities are faster to be evaluated.

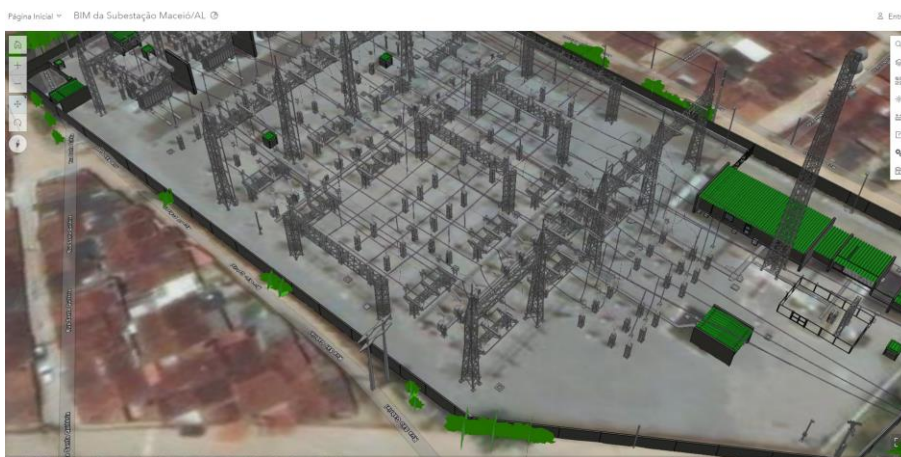


Figure 1 Maceió II Substation - ArcGIS and BIM model

Conclusions

The employing of BIM methodology at substations project or management during its lifetime is a hot topic among Brazilian utilities, even generating a national Working Group, BIM applied to substations, which is working since 2019. The company which owns the presented substations is at stage of implanting the BIM methodology at the transmission and generation sectors, aiming to gain agility on information access and decision-making processes by the possibilities it provides.