

## CAD Measure Vs AutoCAD

### INTRODUCTION

- This paper consists of two parts , namely, Part 1 : deals with a comparison between the use of a CAD-Measure software and the use of Autocad+Excel in taking-off quantities with demonstration of some examples to illustrate the same and Part 2 : shows the use of 'Revit' , a BIM software from Autodesk, in the auto-production of 'quantities', and a proposed roadmap leading to the implementation of 5D BIM in Malaysia.

## CAD MEASURE

- Computer-Aided-Design Measure
- CAD based software made to measure dwg, dwf, dxf and also PDF formats
- Uses simple tools to measure lengths, perimeters, areas, volumes and numbers
- Measurements are summarized into structured and simple to understand schedules
- Have very basic and easy to use interfaces
- Users are unable to temper or change original drawings
- Some uses XML database files which separates the data from the drawings
- Measured quantities can be imported into BQ Production Software

## Advantages to CAD Measure

- Does not require advance CAD knowledge to use
- Measurement methods are standard and do not require deviations from standard measuring procedures
- Instantaneous results when measured
- Does simple measurements very efficiently and accurately
- Good referencing features to facilitate checking purposes
- Multiple results from single measurements
- Able to do earthwork measurements
- Able to measure PDF format files

## Disadvantages to CAD Measure

- Requires the user to purchase some kind of CAD Software to run
- Too structured that it is unable to adapt to suit the preferred method of measurement
- Requires some ground work in setting up 'Schedules' before being able to commence measurement
- Unable to perform some measurements e.g. reinforcement measurement, measurements based on information and data given in schedule forms, numbering in 'text' form, etc.
- 'Schedules' are simple and does not allow for further manipulation unless exported to Excel
- More susceptible to errors due to 'bugs' in the software or wrong usage

## AUTOCAD

- Used by Architects and Engineers to create drawings
- Most widely used CAD software in Malaysia
- Made for drafting

## Advantages in AUTOCAD

- Able to use advance drafting tools for measurement
- Allow users to manipulate drawings to suit their preferred method of measurement
- Able to export all measurements to Excel for further manipulation
- Coupled with advance Excel functions e.g Pivot Table, V-LookUp, etc. users are able to input all measurements into customized tables and summaries
- Able to measure reinforcement
- Able to measure from 'text', 'Schedules', etc. drawn in the Autocad files
- Can make use of LISP functions to further enhance measuring and referencing

## Disadvantages to AUTOCAD

- Very steep learning curve
- Always a danger of editing and tempering original drawings
- Requires very strict and structured set of rules to follow
- Requires a fairly powerful computer to run especially newer versions
- Poor traceability
- AUTOCAD not made for measurement
- Unable to perform earthwork measurements
- Difficult to measure PDF formats